GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOL MANUAL

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Grays Harbor Emergency Medical Services
Patient Care Protocols

REVISION

The date of the last revision of the GHEMS Patient Care Protocols is

May 2015

Items revised, deleted or added will be denoted within the contents sections of the protocols as well as on the protocol itself with the above date.

PRINTING THIS DOCUMENT

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Grays Harbor Emergency Medical Services
Patient Care Protocols

INTRODUCTION

DISCLAIMER

Every attempt has been made to reflect sound medical guidelines and protocols based on currently accepted standards of care for out of hospital emergency medicine. It is the reader's responsibility to stay informed of any new changes or recommendations made at the state or service level.

PREFACE

This EMS protocol manual was established to provide an opportunity for optimal patient care by multiple levels of EMS providers functioning within the Grays Harbor EMS system. Personnel functioning within the Grays Harbor EMS system may only function as an EMS provider under the authority of the Medical Program Director.

Errors in pre-hospital care are generally errors of omission. The EMS provider will be proactive in the implementation of these protocols, and should not withhold or delay any indicated intervention. Providers should remember to "FIRST DO NO HARM"

Periodic revisions will be made in order to reflect the best possible care rendered to our patients consistent with currently acceptable medical practices. These revisions shall be made with the established EMS leadership in conjunction with the MPD and local medical community involvement.

Every patient will be afforded the best care available, in accordance with these protocols and the EMS provider's best judgment, without regard to their sex, mental status, national origin, religion, creed, color, race, diagnosis or prognosis, complaint, lifestyle preference, or ability to pay for services rendered. There is a zero tolerance policy for discrimination based on any of the above.

Any discipline based on patient care issues shall be done by the Medical Program Director under the guidelines of the Washington State Department of Health Medical Program Director's Handbook. Complaints and/or concerns based on an EMS provider's care or any other concerns related to EMS operations are to be forwarded to the Medical Program Director.

CONTINUOUS QUALITY IMPROVEMENT

To maximize the quality of care in EMS, it is necessary to continually review all EMS activity in order to identify areas of excellence and topics for improvement. This method

allows optimal and continuous improvement. CQI is defined as a proactive involvement in issues and applications to constantly assess the value and direction of the EMS system.

Components of CQI include: active communications, documentation, case presentations, protocol review and refinement, medical direction involvement, medical community involvement, continuing education, and reassessment of expected goals and outcomes. Participation in the CQI process is mandatory in order to function within the system.

The primary focus of CQI is on "system performance". Specifically CQI focuses on the bigger picture of our system, including protocols, guidelines, equipment, training and standard operating procedures. The EMS Medical Program Director may request additional documentation, for the purpose of gathering information about a particular call, event, or procedure in question. Failure to cooperate with a request of the Medical Program Director may result in disciplinary action by the Medical Program Director and/or the State of Washington Department of Health.

GUIDELINES AND PROTOCOLS

This document contains both general guidelines and specific EMS protocols for use by EMS responders. Inactive members may not utilize these protocols without being cleared by their respective EMS department/service and the Medical Program Director.

Volunteer or career, emergency medicine demands a strong commitment to the profession. It is the responsibility of each EMS provider to remain current in the lifelong process of EMS education. EMS providers are heavily encouraged to attend any available continuing education opportunities. We trust and hope that this document is both informative and helpful.

Emergency medicine continues to evolve at a rapid pace. Accordingly, this document is subject to change as new information becomes available and accepted by the medical community. Dates of revised or newly implemented protocols will be shown on the respective protocol as well as in the contents section.

These protocols have been divided into four sections, those being as follows:

1. Patient Care Protocols (PCP)
   These are the guidelines for treatment of specific conditions present by patients and have 6 subsections:
   - Significant Findings: These are items that patients may have as a complaint as part of their respective condition. Items contained here that are denoted with an asterisk (*) call for an automatic ALS response/upgrade.
   - Required Paramedic Evaluation: Upon evaluation of a patient by either a BLS provider or IV-Tech, these findings require that an upgrade to ALS for a paramedic evaluation is performed.

- BLS Treatment: Treatment provided by BLS level responders. These treatments are geared towards providers certified at the EMT level. EMR shall follow these guideline up to their scope of practice.
- IV Technician Treatment: Treatment provided by providers certified as an IV Technician.
- ALS Treatment: Treatment performed by ALS/Paramedic personnel.

2. Patient Care Procedures (PROC)
   These are the guidelines set forth for specific procedures that may be performed by EMS personnel in the field. Generally, these procedures are broken into the following sections: Indications, Contraindications and procedure.
3. Patient Care Reference (REF)
   This section contains items of reference noted within the Patient Care Protocols.
4. Medication Protocols (MED)
   These are the informational protocols for the medications to be carried by EMS agencies within the GHEMS service area. Agencies are to carry the medications respective to their level of service.

Patient Care Procedures, References and Medications are noted for specifying which levels of certifications are approved for their respective use utilizing the following markings:

EMR	EMT	EMT-IV	PARAMEDIC

The end of each protocol will be denoted with *****.

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GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOL MANUAL

-- Patient Care Protocols --

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Grays Harbor Emergency Medical Services
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No. *PCP-010*	Effective: *June, 2009*	Revised: *February, 2016*

MEDICAL CONTROL

When the necessity arises that EMS personnel need to contact Medical Control, they shall contact an on-duty Emergency Room physician at Grays Harbor Community Hospital, unless otherwise expressed by the Medical Program Director.

In instances where, after receiving direction from medical control, EMS personnel feel medical control does not fully understand the circumstances of a pre-hospital situation the EMS provider in charge of the Patient may contact the Medical Program Director at his/her discretion.

Medical direction may also be made directly from the Medical Program Director or his/her designee.

Medical Control cannot override (doctor's not allowed to) add or order care not listed under current protocols without MPD approval.

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No. *PCP-020*	Effective: *June, 2009*	Revised: *May, 2015*

DELIVERY OF SERVICES

PROVIDER LEVEL

1. Pre-hospital providers will provide care based on their respective scope of practice.

Level	Medical Control & Skill Capabilities	Medication Administration
EMR	• MPD Protocols • Patient Assessment • CPR/BVM/AED • Basic Bandaging/Splinting • BLS Trauma Triage • BLS Medical • BLS Pediatrics	• Oxygen
EMT	All EMR skills and knowledge as well as: • BLS OB/GYN • Traction Splinting • Dual Lumen Airway (Combi-Tube) • Dexi Stick • CPAP • Pulse Ox	All EMR medications as well as: • Aspirin • Epi-Injection • Oral Glucose • Activated Charcoal May assist patient with patient's… • Nitroglycerin • Metered Dose Inhaler
EMT-IV	All EMR and EMT skills and knowledge as well as: • Peripheral IV skills • Fluid Therapy	All EMR and EMT medications.
PARAMEDIC	All EMR, EMT and EMT-IV skills and knowledge as well as: • MPD Protocols • Endotracheal Intubation • Advanced Airway Procedures • ACLS • Manual Defibrillation • Advanced medical and trauma assessment and skills • Intraosseous Infusions • Advanced IV Access	All medications per MPD protocols.

SERVICE LEVEL

1. EMS services shall be provided in Grays Harbor and North Pacific County by agencies licensed in the State of Washington at the level of their respective licensure as shown below.

ID	Department	License	Type	Transport
14M01	Aberdeen Fire Department	ALS	Ambulance	Yes
14M02	Cosmopolis Fire Department	BLS	Aid	Aberdeen Fire
14M03	Elma Fire Department	BLS	Aid	GHFD 5
14M04	Hoquiam Fire Department	ALS	Ambulance	Yes
14M05	McCleary Fire Department	BLS	Aid	GHFD 5
14M06	Montesano Fire Department	ALS	Ambulance	Yes
14M08	Ocean Shores Fire Department	ALS	Ambulance	Yes
14M09	Westport Fire Department	BLS	Aid	South Beach Fire & EMS
14D01	Grays Harbor Fire District 1	BLS	Aid	Thurston County AMR
14D02	Grays Harbor Fire District 2	BLS	Ambulance	Yes
14D04	Grays Harbor Fire District 4	BLS	Ambulance	Yes
14D05	Grays Harbor Fire District 5	ALS	Ambulance	Yes
14D06	Grays Harbor Fire District 6	BLS	Aid	Hoquiam Fire
14D07	Grays Harbor Fire District 7	BLS	Ambulance	Yes
14D08	Grays Harbor Fire District 8	BLS	Ambulance	Yes
14D10	Grays Harbor Fire District 10	BLS	Aid	Aberdeen/Hoquiam Fire
14D11	Grays Harbor Fire District 11	BLS	Aid	South Beach Fire & EMS
14D14	Grays Harbor Fire District 14	BLS	Aid	South Beach Fire & EMS
14D15	Grays Harbor Fire District 15	BLS	Aid	Aberdeen Fire
14D16	Grays Harbor Fire District 16	BLS	Ambulance	Yes
14D17	Grays Harbor Fire District 17	BLS	Aid	Hoquiam Fire
14X01	Quinault Nation EMS	ILS	Ambulance	Yes
14X03	South Beach Fire & EMS	ALS	Ambulance	Yes
25M03	Raymond Fire Department (NPCEMS)	ALS	Ambulance	Yes
25D05	Pacific County Fire District 5	BLS	Aid	South Beach Fire & EMS

2. Transporting agencies may transport above their respective level of licensure only if done so in accordance with responder's scope of practice, available equipment and GHEMS Patient Care Protocols.
3. BLS and ILS level agencies that transport must request an ALS/Paramedic level response when indicated by the Grays Harbor County Patient Care Protocols. The ALS/Paramedic response can come from either within their own respective department (if available) or by the means of a request for mutual aid from the closest ALS agency.
    a. If the ALS/Paramedic response is from within their respective department, proper personnel and equipment must be available for ALS/Paramedic level care. If not available mutual aid agencies must be utilized.
4. Changes in the above response and transportation plan shall be done only with the approval of the Grays Harbor Emergency Medical Services Council, Grays Harbor Medical Program Director and West Region Emergency Medical Services Council.

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No. *PCP-030*	Effective: *August, 2004*	Revised: *May. 2015*

GENERAL PATIENT ASSESSMENT

1. Patients that gain access to the services of the various Grays Harbor County EMS agencies via a direct means (walk-in's, etc.) will be triaged as appropriate by individuals present at the time.
2. Once notified of the need for services, EMS providers will take the appropriate actions to respond to the standard of care for their level of certification.

SIZE –UP

1. Answer the following questions.
    a. Is it safe for us to be here?
    b. Do we have the appropriate BSI protection deployed?
    c. What is the Nature of the call? (Medical-NOI or Trauma-MOI)
    d. How many patients are involved and how badly are they hurt?
    e. Do I have enough resources to treat and transport the patients?

PRIMARY ASSESSMENT

1. Form a general impression of the patient.
    a. Identify immediate threats
    b. Identify chief complaint
    c. Position patient for assessment
2. Determine responsiveness (AVPU)
3. Airway
4. Breathing
5. Circulation
6. Disability
7. Establish Priority (determine ALS vs. BLS evaluation, treatment, and transport)

SECONDARY ASSESSMENT

1. Medical Complaint-
    a. <u>Responsive</u>
        i. Rapid assessment PRN
        ii. Baseline vital signs
        iii. Treatment PRN
    b. <u>Unresponsive</u>
        i. Rapid assessment
        ii. Baseline vital signs

iii. SAMPLE History
iv. Treatment PRN

2. Traumatic Complaint
    a. Non-Significant MOI
        i. Assess the injury site
        ii. Baseline vital signs
        iii. SAMPLE History
        iv. Treatment PRN
    b. Significant MOI/Unresponsive
        i. Rapid head to toe trauma assessment
        ii. Baseline vital signs
        iii. SAMPLE History
        iv. Treatment PRN

DETAILED PHYSICAL EXAM

Per training, but consider:

1. Medical Complaint
    a. Responsive
        i. A complete review of affected body systems
        ii. Reassess vital signs
    b. Unresponsive
        i. A complete head to toe survey
        ii. Reassess vital signs
2. Traumatic Complaint
    a. Non-Significant MOI
        i. A complete review of injured body region
        ii. Reassess vital signs
    b. Significant MOI/Unresponsive
        i. A complete head to toe survey
        ii. Reassess vital signs

ONGOING ASSESSMENT

1. Repeat and record initial assessment
2. Repeat and record vital signs
    a. Unstable: every 5 min
    b. Stable: every 15 min
3. Repeat and record focused assessment of patient complaint/injuries
4. Check and record response to interventions

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No. *PCP-040*	Effective: *August, 2004*	Revised: *June, 2009*

DOWNGRADING CALLS FROM ALS TO BLS

1. The on-scene paramedic must contact the on duty Emergency Room Physician at Grays Harbor Community Hospital and discuss the case. The on duty Emergency Physician will determine if a call should be downgraded from ALS to BLS.
2. The following cases are not to be downgraded:
    a. Chest Pain
    b. Shortness of Breath
    c. Hypotension
    d. Mental Status Change

REFERENCE:

1. PCP-010: Medical Control

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-050*	Effective: *August, 2004*	Revised: *May, 2015*

GENERAL PATIENT CARE PROCEDURES

BOLD INTALICS INDICATE AN ALS PROCEDURE

AIRWAY

1. Management shall be accordance with current AHA standards
    a. Positioning
        i. Head tilt/Chin lift (No trauma)
        ii. Jaw Thrust
    b. Foreign Body Airway Obstruction removal
        i. Suctioning
        ii. Finger Sweep (No blind sweeps)
        iii. Abdominal thrusts (Chest thrusts for infants/pregnant/obese patients)
        iv. Back blows (infants only)
        v. ***Direct laryngoscopy and removal of the obstruction with McGill's***
    c. Maintenance
        i. Positioning
        ii. Insertion of Oropharyngeal Airway
        iii. Insertion of Nasopharyngeal Airway
        iv. Insertion of Combi-tube (BLS Procedure)
        v. ***Orotracheal Intubation***
            1. Eschmann Stylette
        vi. ***Surgical Intervention***

BREATHING

1. It shall be enhanced, assisted or maintained using the following equipmentand techniques:
    a. Nasal cannula with oxygen Non-Rebreather Mask with oxygen
    b. Consider the use of CPAP

VENTILATION

1. It shall be enhanced, assisted or maintained using the following equipment and techniques:
    a. Pocket Mask

b. Bag Valve Mask with reservoir bag and oxygen
    i. Used to assist a seated conscious patient
    ii. Used to assist or breathe for an unconscious patient
    iii. Used in conjunction with Combi-tube or Endotracheal tube
c. ***Portable oxygen powered ventilator***

CIRCULATION

1. Management shall be in accordance with current AHA standards
    a. Bleeding Control
        i. With direct pressure. Elevate and use the pressure points, consider a tourniquet.
    b. Assist Circulation
        i. All Cardiac Arrest Patients that do not meet the Death in Field criteria will be considered for cardiopulmonary resuscitation.
        ii. If a patient does not meet the criteria set for in the Death in Field protocol, BLS personnel shall begin resuscitation and apply the AED.
        iii. Cardiopulmonary resuscitation shall be performed in accordance with current AHA guidelines or as directed by protocols

FLUID RESUSCITATION

1. Fluid resuscitation for individuals with circulatory compromise should be aggressively managed with close attention directed toward the patient's pulmonary status. The goal is to obtain and maintain a systolic BP between 80 – 100 mmHg. In patients with suspected internal bleeding, care should be taken not to raise the systolic BP higher than 90 – 100 mmHg.
2. Fluid resuscitation for children less than 8 y/o and presenting with signs and symptoms of shock should consist of a bolus of Normal Saline. Successive boluses can be given.
3. Peripheral IV's should be established in 2 –3 attempts, then external jugular IV access or central IV access should be sought in one of the following sites:
    a. Right Subclavin Vein
    b. Right/Left IJ Vein
4. If peripheral IV access is difficult, consider intraosseous infusion

DISABILITY

1. Evaluation of MOI should be completed for every patient that is suspected of having a spinal injury.
    a. All patients that have a traumatic MOI that is suggestive of spinal injury or has an uncertain degree of injury should receive immediate manual stabilization of their neck.

b. After the initial assessment is complete, patients with a traumatic MOI and an uncertain degree of injury shall have the Spinal Immobilization Decision Tool used as part the evaluation in regards to spinal precautions.
c. Patients that have a traumatic MOI that is suggestive of spinal injury or do not meet the inclusion criteria of the Spinal Immobilization Decision Tool shall have full spinal precautions applied.
d. All patients with signs and symptoms of long bone fractures or joint injuries should be immobilized considering the following goals.
    i. The joint above/below the fracture should be immobilized
    ii. The bone above/below an injured joint should be immobilized
    iii. Distal PMS should be evaluated and recorded before/after
    iv. In general, joints should be splinted in position found unless it is not compatible with transport. In these cases, the joint should be repositioned as neutral as possible.
    v. In general, bones should be splinted in gross anatomical alignment.
    vi. When possible elevate extremities above the level of the heart and apply cold packs. At any time, ALS should be considered for pain management.

COMMUNICATION & DOCUMENTATION

1. ALS upgrades will be requested via dispatch (HARBOR/PACCOM) with the reason for upgrade given.
2. Short reports will be given to responding medic units.
3. BLS units recommending the cancellation of an ALS unit are required to give a complete verbal report to the incoming medic unit if possible.
4. Paramedics are required to make contact with a supervising physician when:
    a. Directed to do so by Protocol.
    b. The paramedic has evaluated a patient who was thought to be an ALS patient and would like to down grade to BLS.
    c. The paramedic has examined the patient and needs to consult with a physician on the best course of treatment for the patient.
5. Any unit transporting a patient is required to contact the receiving facility to give a short report.
6. Verbal and written document of patient care:
    a. A verbal report shall be given for hand off of every patient
    b. Except in emergent situations, the first arriving unit shall ensure that the written report accompanies the patient.
    c. Transporting agencies must provide an initial written report of patient care, from the first arriving agency and the transporting agency, to the receiving facility at the time the patient is delivered to the facility.
        i. Written/Electronic documentation shall be done utilizing the approved Grays Harbor Emergency Medical Services Patient Care Report.
            1. At the time of arrival at receiving facility, a minimum of a brief patient care report shall be submitted.

2. Within 24-hours of arrival, a complete patient care report shall be submitted,

TRANSPORTATION

1. Ground Transport
    a. All ground transports will be made by a Washington State DOH licensed, and trauma verified, Fire Department or Fire District Medic Unit or Aid Unit unless otherwise noted in GHEMS PCP-020: Delivery of Services. An exception is made during disaster situations.
    b. All patients transported by ground shall go to closest appropriate hospital, unless MEDICAL CONTROL approves of bypassing the closest facility.
    c. All ground transport response times and providers shall be in accordance with current WAC 246-976-390
2. Air Transport
    a. Any field personnel may request air transport on standby via dispatch (HARBOR/PACCOM). An ALS upgrade is required. The primary provider is Life Flight. The secondary provider is Airlift Northwest, for multiple patients consider MAST.
    b. ALS personnel must contact Grays Harbor Community Hospital ER physician prior to activating helicopter transport.

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Grays Harbor Emergency Medical Services
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No. *PCP-060*	Effective: *June, 2009*	Revised:

PHYSICIAN ON-SCENE

This protocol outlines the steps to be followed when, at the scene of an injury or illness, a bystander identifies their self as a physician

GENERAL GUIDELINES

1. Be courteous at all times.
2. Try not to be confrontational.
3. Explain to the individual that pre-hospital providers operate under the guidelines/protocols set forth by the Medical Program Director of GHEMS.
4. If needed, provide the individual access to protocols while on scene. This can be facilitated by showing the individual the protocols that should be kept in your response units.
5. The physician must contact MEDICAL CONTROL to obtain permission to intervene and will continue care until arrival at the receiving hospital.

PHYSCIAN AT A SCENE

When a bystander at an emergency scene identifies their self as a physician, the Paramedic or EMT in charge of the scene shall utilize the following procedure.

1. Ask to see the individual's medical license, unless the individual is known by providers on scene to be licensed in the State of Washington as a physician.
2. If the physician is able to produce a copy of his/her medical license they may participate in patient care by:
   a. Assisting the pre-hospital providers in carrying out protocols, and/or
   b. Performing additional interventions at the direction of medical control, and/or
   c. Give orders if…
      i. Medical control concurs with orders, AND
      ii. The physician accompanies the patient to the hospital.
      iii. In the event that the physician accompanies the patient to the hospital, the physician will be responsible for completing any required documentation (Patient Care Reports).

REFERENCE:

1. PCP-010: Medical Control

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No. *PCP-070*	Effective: *August, 2004*	Revised:

DEAD ON ARRIVAL (DOA) GUIDELINES

EMS personnel shall not initiate resuscitation measures when a patient is determined to be:

1. "Obviously Dead" are victims who, in addition to absence of respiration and cardiac activity, have suffered one or more of the following:
    a. Decapitation
    b. Evisceration of the heart or brain
    c. Incineration
    d. Rigor Mortis
    e. Decomposition
    f. Multi-system trauma incompatible with life
    g. Lividity
2. Do Not Resuscitate orders and no pulse or respirations:
    a. DOA victims will be reported to the appropriate authorities based on local procedures.
    b. DO NOT leave body unattended.
    c. Consider Critical incident stress debriefing if needed.
3. Run reports for patients who die in the field are to be faxed to the MPD.

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Grays Harbor Emergency Medical Services
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No. *PCP-080*	Effective: *August, 2004*	Revised:

DO NOT RESUSCITATE (DNR) ORDERS

Focused History and Physical Exam

A. Determine the Patient is in a Do Not Resuscitate status in one of the following ways:
    1. The patient has an original, valid POLST Form at the bedside or in the residence, or
    2. The patient has an EMS NO CPR bracelet that is intact and not defaced, or
    3. The patient has an original EMS-No CPR Form at the bedside or somewhere in the residence, or
    4. The patient has other DNR orders: We encourage medical facilities to use the POLST Form.
B. Sometimes health care facilities prefer to use their own health care DNR orders. When encountering other DNR orders, perform the following:
    1. Verify that the order has a physician signature requesting "Do Not Resuscitate"
    2. Verify the presence of the patient's name on the order.
    3. Contact on-line medical control for further consultation. In most cases, on-line medical control will advise to withhold CPR following verification of a valid physician-signed DNR order.

Management

A. Begin resuscitation when it is determined:
    1. No valid DNR order exists
    2. In your medical judgment, your patient has attempted suicide or is a victim of a violent crime.
B. Do Not initiate resuscitation measure when:
    1. The patient is determined to be "obviously dead" (Refer to DOA protocol)
C. When the patient has an existing, valid DNR order:
    1. POLST:
        a. Provide resuscitation based on patient's wishes identified on the form.
        b. Provide medical interventions identified on the form.
        c. Always provide comfort care.
    2. EMS-No CPR:
        a. Do not begin resuscitation
        b. Provide comfort care.
        c. Contact medical control if any questions arise.

3. Other DNR orders:
    a. Follow specific orders contained in the DNR order based on the standard of care allowed by your level of certification.

D. If resuscitative efforts have been started before learning of a valid DNR order, STOP these treatment measures unless continuation is requested by the DNR order and provide comfort care:
    1. Basic CPR.
    2. Intubation (Leave ET Tube in place, but stop any positive pressure ventilations).
    3. Cardiac monitoring and Defibrillation
    4. Administration of resuscitation medications.
    5. Any positive pressure ventilations through other devices

E. Revoking the DNR order. The following people can inform the EMS system that the DNR order has been revoked:
    1. The patient
    2. The physician expressing the patient's revocation of the directive
    3. The legal surrogate for the patient expressing the patient's revocation of the directive. (The surrogate cannot verbally revoke a patient executed directive)

F. Documentation:
    1. Complete the PCR form.
    2. State in writing in the narrative summary that the patient is a DNR.
    3. Record the name of the patient's Doctor and if you contacted him/her.
    4. Record the reason why EMS was called.
    5. Comfort the family and bystanders if possible.
    6. Follow local protocols for in field death (possible law involvement, coroners' office, etc…)

G. Comfort Care Measures, which may include:
    1. Manually opening the airway. (no ventilations)
    2. Suction the airway.
    3. Oxygen per nasal cannula at.
    4. Splinting.
    5. Control bleeding.
    6. Pain medications per level of certification. (Morphine IV in small does for Air, Hunger)

H. Special Situations:
    1. The patient's wishes in regard to resuscitation should always be respected. Sometimes, however, the family may vigorously and persistently insist on CPR even if a valid DNR order is located. These verbal requests are not consistent with the patient's directive. However, in such circumstances:
        a. Attempt to convince family to honor the patient's decision to withhold CPR/Treatment. If family persists, then:
        b. Initiate resuscitation efforts until relieved by paramedics.
        c. Advanced life support personnel should continue efforts and contact online medical control.

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No. *PCP-090*	Effective: *June, 2009*	Revised:

PATIENT INITIATED REFUSAL (AMA)

The intent of this protocol is to provide pre-hospital providers direction in the event that a patient initiates a refusal of service and/or transport. Patient refusal of service may be complete or partial. Partial refusal is defined as a patient refuses only an aspect of care/treatment rather than treatment or transport as a whole.

GENERAL GUIDELINES

1. It is the responsibility of the pre-hospital provider to accurately record and document the identifying information of all involved persons encountered during the course of emergency requests for service.
2. A patient care report (PCR) shall be completed on all patient contacts. The PCR shall document all assessment and care rendered to the patient by pre-hospital providers and all refusals of assessment, care, and/or transport.
   a. Patient contact is defined as patients that EMS examines.

PATIENT REFUSAL

1. Certain members of the public, while suffering from an illness or injury, may decline all or part of the indicated assessment, emergency treatment, and/or transportation. These individuals have the right to refuse emergency treatment and/or transportation if the following factors are not present:
   a. Impaired capacity to understand the emergent nature of their medical condition due to, but not limited to:
      i. Alcohol,
      ii. Drugs or medications,
      iii. Mental illness,
      iv. Traumatic injury or grave disability.
   b. Legal minority (minority – legal age status at which full personal rights may not be exercised).
2. It is the responsibility of pre-hospital providers to render all appropriate assessments, treatments and transportation under the following conditions:
   a. When it is medically indicated,
   b. When requested by the patient to render treatment and/or transportation,
   c. When evidence for impaired capacity exists,
   d. When not of legal age.
3. For the members of the public that refuse part or all indicated assessments, emergency treatment, and/or transportation and who in the pre-hospital

provider's judgment, requires treatment and/or transportation, the following steps may be taken:

a. Have your partner or another pre-hospital provider offer treatment and/or transportation.
b. Consider utilizing the patient's family and/or friends on-scene.
c. Consider the involvement of law enforcement early if there is a threat to the patient's self or others, or grave disability.

4. If attempts to gain the patient's consent for any indicated assessment, emergency treatment and/or transportation have been unsuccessful…
   a. Explain to the patient in very simplistic language as to the risks involved in not seeking proper medical care.
   b. Have the patient sign refusal. Document the patient's refusal on the appropriate patient care report as indicated above.

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Grays Harbor Emergency Medical Services
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No. *PCP-100*	Effective: *August, 2004*	Revised: *February 2016*

ABDOMINAL PAIN

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)	
***Distended or rigid abdomen**	***Pulsating abdominal mass**
***Unequal/absent femoral pulses**	***ALOC**
***Orthostatic changes**	***Diaphoresis**
***Emesis**	***Rebound Abdominal Tenderness**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory distress
3. Vomiting red blood
4. Black, tarry stools
5. Abdominal pain with back pain
6. Orthostatic changes

BLS TREATMENT

1. ABC's, History, PE, Orthostatic Vitals, SpO_2 (if indicated), Allergies [(a)(b)]
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Position of comfort
4. NPO
5. Monitor vitals
6. Treat other associated signs/symptoms per protocol

IV TECHNICIANS

1. Perform treatment as above
2. IV access with blood draw
3. If hypotensive, administer fluid bolus
    a. Make sure to check vitals and lung sounds before and after administration of fluid

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. For pain, give:
    a. **Morphine**:) OR
    b. **Fentanyl**:

5. For Nausea/Vomiting, give:
    a. **Zofran**: OR
    b. **Compazine**:

NOTES:

a. Abdominal pain may be the first sign of an impending rupture of the appendix, liver, spleen, ectopic pregnancy, or aneurysm. Monitor for signs of hypovolemic shock.

b. If pulsating mass is felt, suspect an abdominal aneurysm and discontinue palpation. With suspected "AAA", be cautious with fluid administration.

REFERENCE:

2. MED-180: Fentanyl
1. MED-290: Morphine
2. MED-330: Oxygen
3. MED-350: Prochlorperazine (Compazine)
4. MED-450: Zofran

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-110*	Effective: *August, 2004*	Revised: *February, 2016*

ALLERGIC REACTION/ANAPHYLAXIS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Circumferential cyanosis**	***Hypotension**	***Abdominal cramps**
***Chest pain**	***Itching, Urticaria**	***Facial edema**
***Wheezing, stridor**	***Dizziness, anxiety**	***ALOC**
***Tachycardia**	***Nausea/Vomiting**	***Diarrhea**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Cannot speak full sentences/ SOB
3. Edema in throat or difficulty swallowing
4. Diaphoresis
5. Syncope
6. History of prior anaphylactic reaction
7. ↓ LOC

BLS TREATMENT

1. ABC's, History, PE, VS, Allergies, SpO_2
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Remove offending agent (i.e. stinger)
4. Give **Epinephrine 1:1000 IM**
5. Assist with **Metered Dose Inhaler**
    a. Make sure it is the pt's and it is not expired
6. Position of comfort
7. NPO
8. Treat other signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw
3. If hypotensive, administer fluid bolus
    a. Make sure to check vitals and lung sounds before and after administration of fluid

ALS TREATMENT

MILD/MODERATE REACTION

1. Perform treatment as above
2. EKG
3. For Urticaria, give **Benadryl**:
4. For Wheezing & SOA, give **Albuterol**: combined with **Atrovent**:
5. Give **Methylprednisolone**:

SEVERE REACTION/ANAPHYLAXIS

1. Perform treatment as above
2. **O_2** via appropriate device./Intubate PRN/Surgical Airway PRN/$ETCO_2$ device [(c)]
3. EKG
4. Give:
   a. **EPI (1/1,000)** SQ: 0OR
   b. **EPI (1/10,000)** IV:
5. For Urticaria, give: **Benadryl**: For Wheezing & SOA, give **Albuterol**: combined with **Atrovent**:
6. Give: **Methylprednisolone**: For Hypotension, give **Dopamine**: Titrated to Systolic BP of 100mmHg
7. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. Epinephrine is given only if the patient is in respiratory distress or hypoperfused.
b. Contact **MEDICAL CONTROL** prior to administration of second dose of EPI
c. If intubation is required, utilize the RSI procedure.
d. May utilize **Duo-Neb** in place of mixing Albuterol and Atrovent.

REFERENCE:

1. PCP-010: Medical Control
2. PROC-050: Capnography
3. PROC-110: Epinephrine Administration for EMT
4. PROC-260: Rapid Sequence Intubation
5. MED-060: Albuterol
6. MED-130: Diphenhydramine (Benadryl)
7. MED-140: Dopamine
8. MED-150: Duo-Neb
9. MED-160: Epinephrine
10. MED-170: Epinephrine for EMT
11. MED-220: Ipratropium Bromide (Atrovent)
12. MED-270: Methylprednisolone (Solu-Medrol)
13. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-120*	Effective: *August, 2004*	Revised: *June, 2009*

BEHAVIORAL EMERGENCIES

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Anxiety	****Agitation***	****Hallucinations***
Hyperventilating	****Hostile***	****Tries to hurt self or others***
****Profuse diaphoresis***	***Confusion***	***Affect change***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory distress
3. Suicidal or Homicidal behavior
4. Seizures
5. ALOC

BLS TREATMENT

1. Scene Safety, advise law PRN [(a)]
2. ABC's, History, PE, VS, Allergies, SpO_2
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Calm, relax, and reassure patient
5. Remove patient from stressful environment
6. **Restrain** Patient PRN for safety [(b)]
7. Treat other associated signs/symptoms per protocol [(c)]

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw if possible, do not put yourself in danger

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. For chemical restraint, give **Haldol**:
    a. Pediatric use not recommended.

NOTES:

a. Do not leave patient alone or turn your back to them, maintain a safe exit.
b. Restrain as necessary for your protection or that of the patient
c. Consider contacting MHP

REFERENCE:

1. PROC-270: Restraint Guidelines
2. MED-210: Haloperidol (Haldol)
3. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-130*	Effective: *August, 2004*	Revised: *January, 2012*

CARDIAC ARREST

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Unresponsive** ***Apneic** ***Pulseless**

REQUIRED PARAMEDIC EVALUATION

1. Automatic ALS

BLS TREATMENT

1. ABC's, Initiate CPR/AED per current GHEMS guidelines. [(a)(b)]
2. Insert Combi-Tube
3. BVM with supplemental O_2.
4. Transport/Rendezvous with ALS

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access – 2 sites preferred
3. Administer fluid bolus

ALS TREATMENT

1. Per Current ACLS guidelines
1. Consider possible causes:
    a. Hypovolemia
    b. Hypoxia
    c. Hydrogen Ion/Acidosis
    d. Hypo-/Hyperkalemia
    e. Hypoglycemia
    f. Hypothermia
    g. Toxins
    h. Tamponade
    i. Tension pneumothorax
    j. Thrombosis
    k. Trauma

FOR ARREST OF DIALYSIS PATIENTS

1. Treat rhythm as outlined above

2. Give:
    a. **Sodium Bicarbonate:**
    b. **Calcium Chloride:**
    c. **Dextrose:**

For patients with return of spontaneous circulation (ROSC), perform 12-Lead EKG to determine presence of STEMI. If positive for STEMI utilize transport guidelines as outlined in REF-025: Cardiac Triage Destination Procedure.

NOTES:

a. Do not initiate CPR if legal **POLST/DNR** documentation is present
b. If CPR has been started and appropriate **POLST/DNR** orders are found, CPR may be stopped.
c. Termination of efforts may be considered after the patient has been effectively ventilated with ET tube and two rounds of ACLS pharmacology have been given and Medical Control has given approval. Document appropriately.
d. CPR: Continuous CPR to be performed as outlined in PROC-078.

REFERENCE:

1. PCP-080: Do Not Resuscitate (DNR) Orders
2. PROC-020: Automated External Defibrillation
3. PROC-050: Capnography
4. PROC-078: Continuous CPR
5. PROC-120: Esophageal Tracheal Combi-Tube
6. PROC-170: Intraosseous Infusion – Adult
7. REF-025: Cardiac Triage Destination Procedure
8. MED-070: Amiodarone
9. MED-080: Atropine Sulfate
10. MED-090: Calcium Chloride
11. MED-100: Dextrose 50%
12. MED-160: Epinephrine
13. MED-250: Lidocaine 2%
14. MED-260: Magnesium Sulfate
15. MED-330: Oxygen
16. MED-370: Sodium Bicarbonate
17. MED-420: Vasopressin

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-140*	Effective: *August, 2004*	Revised: *January, 2012*

CARDIAC: BRADYCARDIA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Chest Pain**	***Respiratory Distress**	***Nausea/Vomiting**
***Dizziness**	***ALOC**	***Diaphoresis**
***Slow HR**	***Cyanosis**	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ↓ LOC
3. Syncope
4. Dyspnea
5. Hypotension
6. Chest Pain
7. Signs of shock
8. Extensive Medical History

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Try to find out when this started
4. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG - consider **12-Lead** [(a)]

STABLE/ADEQUATE PERFUSION

1. Observe/monitor patient.

UNSTABLE/INADEQUATE PERFUSION

1. Prepare for **Transcutaneous Pacing** (TCP)
   a. Use without delay for high-degree block – 2^{o} type II/3^{o} AV block.

2. Consider **Atropine**
   a. Atropine is not effective for 3° heart block with wide complex escape idioventricular rhythm.
3. If pacing ineffective or unavailable, consider:
   a. **Dopamine**: OR
   b. **Epinephrine**:
4. Consider and treat contributing causes.

NOTES:

a. 12-Leads or Cardiac Monitor placement are not to be performed as a diagnostic tool by EMS to determine the need for patient transport. 12-Leads should only be performed once it has been determined that the patient is going to be transported to the hospital.

REFERENCE:

1. PROC-010: 12-Leads
2. PROC-310: Transcutaneous Pacing
3. MED-080: Atropine Sulfate
4. MED-140: Dopamine
5. MED-160: Epinephrine
6. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-150*	Effective: *August, 2004*	Revised: *February, 2016*

CARDIAC: CHEST PAIN/ANGINA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Diaphoresis** **Pale, gray skin** **Cyanosis**
***Irregular pulse** **Hypotension** **Respiratory Distress**
ALOC** **Nausea & Vomiting** **Tachycardia

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Male > 40 years
4. Female >45 years
5. Signs of shock
6. Implanted defibrillator shock
7. Extensive Medical History

BLS TREATMENT

1. ABC's, History, PE, VS, Allergies, SpO_2
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Give **Baby Aspirin** [a]
4. Assist with patient's **Nitroglycerin** [b]
5. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Perform treatment as above
    a. Rapid assessment for suspected STEMI patients, perform history and physical exam during transport
    b. For patient's experiencing a STEMI, establish 2 IV sites, minimum 18ga each.
2. Administer **O_2** via appropriate device.
    a. For patients with ACS/STEMI, titrate O_2 to a SpO_2 of 94%.
3. EKG - 12-Lead [c]
    a. For 12-Leads showing STEMI, refer to REF-025: Cardiac Triage Destination Procedures for transport guidelines.

4. Intubate PRN/$ETCO_2$ device [(d)]
5. Treat any arrhythmias per current ACLS guidelines
6. Give: **Nitroglycerin:**
    a. For patient with pain not relieved with Nitro give:
        i. **Morphine**: OR
        ii. **Fentanyl**:
7. For patient transports to Grays Harbor Community Hospital, Willapa Harbor Hospital and Summit Pacific, patients with STEMI are to remain on the EMS gurney and a rapid assessment is to be performed by the Emergency Room Physician to determine the need for thrombolytic therapy. Once the determination has been made on thrombolytics, the patient will continue transport to Providence St. Peter's Hospital by the initial transporting agency.

NOTES:

a. Prior to administration of ASA, ask appropriate questions regarding stomach problems, ingestion of ASA already, blood thinners, etc…

b. Prior to administration of Patient's NTG make sure it is prescribed to Patient and is not outdated.

c. 12-Leads or Cardiac Monitor placement are not to be performed as a diagnostic tool by EMS to determine the need for patient transport. 12-Leads should only be performed once it has been determined that the patient is going to be transported to the hospital.

d. If intubation is required, utilize the RSI procedure as outlined in PROC-260.

e. Use Fentanyl only if patient is allergic to Morphine.

REFERENCE:

1. PROC-010: 12-Leads
2. PROC-050: Capnography
3. PROC-260: Rapid Sequence Intubation
4. REF-025: Cardiac Triage Destination Procedures
5. MED-020: Acetylsalicylic Acid (Aspirin)
6. MED-180: Fentanyl
7. MED-290: Morphine Sulfate
8. MED-310: Nitroglycerin
9. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-160*	Effective: *August, 2004*	Revised: *January, 2012*

CARDIAC: TACHYCARDIA – NARROW COMPLEX
A-FIB/A-FLUTTER

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Chest Pain**	***Respiratory Distress**	***Nausea/Vomiting**
***Dizziness**	***ALOC**	***Uncontrolled Tachycardia**
***Diaphoresis**	***Irregular HR**	***Cyanosis**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ↓ LOC
3. Syncope
4. Signs of shock
5. Extensive Medical History

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Check pulse to see if it is irregular
4. Try to find out when this started
5. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Per Current ACLS guidelines

NOTES:

a. 12-Leads or Cardiac Monitor placement are not to be performed as a diagnostic tool by EMS to determine the need for patient transport. 12-Leads should only be performed once it has been determined that the patient is going to be transported to the hospital.

b. If patient has been in A-fib/A-flutter for greater than 48 hours cardioversion should be held off due to the fact that an atrial emboli may be released. If possible, patient should receive anticoagulation therapy prior.

REFERENCE:

1. PROC-010: 12-Leads
2. PROC-060 Cardioversion
3. MED-120: Diltiazem (Cardizem)
4. MED-180: Fentanyl
5. MED-280: Midazolam (Versed)
6. MED-330: Oxygen
7. MED-360: Propofol

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-170*	Effective: *August, 2004*	Revised: *January, 2012*

CARDIAC: TACHYCARDIA – NARROW COMPLEX
PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA (PSVT)

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Chest Pain**	***Respiratory Distress**	***Nausea/Vomiting**
***Dizziness**	***ALOC**	***Uncontrolled Tachycardia**
***Diaphoresis**	***Cyanosis**	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ↓ LOC
3. Syncope
4. Dyspnea
5. Hypotension
6. Chest Pain
7. Signs of shock
8. Extensive Medical History

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies
2. Administer O_2 via non-rebreather mask, assist respirations PRN
3. Check pulse to see if it is irregular
4. Try to find out when this started
5. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw
    a. Large bore in AC preferred.
    b. Normal Saline

ALS TREATMENT

1. Per Current ACLS guidelines

NOTES:

a. 12-Leads or Cardiac Monitor placement are not to be performed as a diagnostic tool by EMS to determine the need for patient transport. 12-Leads should only be

performed once it has been determined that the patient is going to be transported to the hospital.

b. If considering that tachycardia is A-Fib/Flutter and patient has been in A-fib/A-flutter for greater than 48 hours cardioversion should be held off due to the fact that atrial emboli may be released. If possible, patient should receive anticoagulation therapy prior.

REFERENCE:

1. PROC-010: 12-Leads
2. PROC-060 Cardioversion
3. MED-040: Adenosine
4. MED-120: Diltiazem (Cardizem)
5. MED-180: Fentanyl
6. MED-280: Midazolam (Versed)
7. MED-330: Oxygen
8. MED-360: Propofol

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-180*	Effective: *August, 2004*	Revised: *January, 2012*

CARDIAC: TACHYCARDIA – WIDE COMPLEX

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Chest Pain**	***Respiratory Distress**	***Nausea/Vomiting**
***Dizziness**	***ALOC**	***Uncontrolled Tachycardia**
***Diaphoresis**	***Cyanosis**	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ↓ LOC
3. Syncope
4. Dyspnea
5. Hypotension
6. Chest Pain
7. Signs of shock
8. Extensive Medical History

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies
2. Administer O_2 via non-rebreather mask, assist respirations PRN
3. Check pulse to see if it is irregular
4. Try to find out when this started
5. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Per current ACLS guidelines

NOTES:

a. Consider SVT with aberrancy

b. 12-Leads or Cardiac Monitor placement are not to be performed as a diagnostic tool by EMS to determine the need for patient transport. 12-Leads should only be performed once it has been determined that the patient is going to be transported to the hospital.

c. Patients over 70 year of age or hepatic disease; reduce dosages by half.

REFERENCE:

1. PROC-060: Cardioversion
2. MED-040: Adenosine
3. MED-070: Amiodarone
4. MED-180: Fentanyl
5. MED-250: Lidocaine 2%
6. MED-280: Midazolam (Versed)
7. MED-330: Oxygen
8. MED-360: Propofol

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-190*	Effective: *August, 2004*	Revised: *June, 2009*

CEREBROVASCULAR ACCIDENT/STROKE

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Headache**	***Impaired Vision**	***Affect changes**
***Facial Droop**	***ALOC**	***Respiratory Distress**
***Coma**	***Confusion**	***Paralysis**
***Seizures**	***Dizziness**	***Unequal Pupils**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Chest pain
4. Diabetic
5. Severe headache
6. Nausea & Vomiting

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies [(a)]
2. Administer O_2 via non-rebreather mask, assist respirations PRN
3. Blood-glucose check
4. Perform " **"FAST" Stroke Assessment**
5. Be prepared to suction/clear airway
6. Treat other associated signs/symptoms per protocol
7. Anticipate seizures

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw (preferably on non-affected side) [(b)]

ALS TREATMENT

1. Perform treatment as above
2. Administer O_2 via appropriate device.
3. EKG
4. Intubate PRN/$ETCO_2$ device [(c)]
5. Fluid bolus PRN

NOTES:

- **a.** Determine time of onset of symptoms if possible. Time is critical for pharmacological intervention.
- **b.** Invasive procedures should be limited to the unaffected side whenever possible
- **c.** If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE:

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-021: FAST Stroke Assessment
4. REF-065: Stroke Triage Destination Procedure
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-200*	Effective: *August, 2004*	Revised: *June, 2009*

CHOKING

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Universal choking sign	****Noisy breathing***	****No breath sounds***
****Inability to speak***	****Cyanosis***	***Flared nostrils***
****Labored use of muscles***	****ALOC***	****Restlessness***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Signs of partial/full obstruction [(a) (b)]
3. Respiratory distress
4. Cyanosis
5. ↓ LOC

BLS TREATMENT

1. ABC's
2. Manage airway per current AHA guidelines
3. History, PE, VS as time permits, SpO_2
4. Treat other associated symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access PRN

ALS TREATMENT

1. Perform treatment as above
2. Magill's PRN
3. EKG
4. Intubate PRN/**Surgical Airway** PRN/**$ETCO_2$** device [(c)]

NOTES:

a. If obstruction is successfully cleared, BLS transport may be considered

b. If the patient possibly aspirated a foreign object but is in no distress, he or she still needs to be transported

c. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE:

1. PROC-050: Capnography

2. PROC-260: Rapid Sequence Intubation
3. PROC-290: Surgical Cricothyrotomy

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-210*	Effective: *August, 2004*	Revised: *June, 2009*

COMA OF UNKNOWN ORIGIN/ALOC

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Medical alert tag	***Breath odor***	****Evidence of Trauma***
****ALOC***	****Abnormal breathing***	***Hyper/Hypotension***
****Diaphoresis***	****Chest Pain***	****Hyper/Hypoglycemia***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Drugs/ alcohol O.D.
4. Seizure activity
5. If DOA, cold, stiff, age <1 y/o

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies [(a)]
2. C-spine precautions if indicated
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood-glucose check
    a. For ↓ BSL, give (1) **Oral Glucose** or food/beverages (If mentation allows)
5. Perform **FAST Stroke Assessment**
6. Prepare suction equipment
7. If no trauma suspected, place patient in the recovery position
8. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw
3. Consider fluid bolus if hypotensive
    a. Make sure to check vitals and lung sounds before and after administration of fluid

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. For ↓ BSL, give:
    a. **Oral Glucose:** (If mentation allows) OR

b. **D_{50}**: OR
    i. Pediatric:
c. **Glucagon**:
    i. Pediatric: (BELOW 44LBS)

5. Consider: **Thiamine**: Still no response, give **Narcan**:
    a. Pediatric:
6. If no response, Intubate patient/**$ETCO_2$** device [(b) (c)]
7. Treat cardiac arrhythmias per current ACLS guidelines
8. Nasal Atomizer – Narcan, ?Versed, ?Valium

NOTES:

a. Use the acronym:
A – ALCOHOL**T** – TRAUMA
E – EPILEPSY**I** – INFECTION
I – INSULIN**P** – PSYCHIATRIC
O – OVERDOSES**S** – STROKE
U – UREMIA**C** – CARDIAC

b. Check Blood Sugar prior to intubation

c. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE:

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-021: FAST Stroke Assessment
4. MED-100: Dextrose 50% (D_{50})
5. MED-200: Glucagon
6. MED-300: Naloxone (Narcan)
7. MED-320: Oral Glucose
8. MED-330: Oxygen
9. MED-410: Thiamine

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-220*	Effective: *August, 2004*	Revised: *May, 2015*

DIABETIC EMERGENCIES

SIGNIFICANT FINDINGS (DENOTES AUTOMATIC ALS)*		
Dry mouth & intensive thirst	***Restlessness***	***Weak, Rapid pulse***
Abd. Pain & vomiting	***Full rapid pulse***	***Change in affect***
Dry, red, warm skin	***Pale, cool, clammy***	***Dizziness***
****Fainting, convulsions***	***Fruity odor***	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. ALOC
4. Signs of shock
5. BS level >500 or <60
6. Seizures

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. If unconscious, place patient in the recovery position if no trauma suspected
4. Blood-glucose check by patient or EMT [(a) (b)]
5. For ↓ BSL, give (1) **Oral Glucose** or food/beverage (if mentation allows)
    a. May repeat PRN
6. Repeat Blood-glucose check
7. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw
3. If hyperglycemic start drip of **NS Drip**

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. For ↓ BS, give:
    a. **Oral Glucose:** (If mentation allows) OR
    b. **D_{50}**: OR Pediatric doses

c. **Glucagon**: (if no IV access)
    i. Pediatric: (BELOW 44LBS)
d. Consider: **Thiamine:**

5. If Hyperglycemic,
    a. IDDM
        i. Contact MEDICAL CONTROL
        ii. NS at 200 ml/hr up to 4 liters
        iii. BS Level >250-500, 5 units IV using patients own Insulin
        iv. BS Level >500, 10 units IV using patients own Insulin
    b. NIDDM
        i. NS at 200 ml/hr (BS Level >250), up to 6-8 liters
    c. .
6. Intubate PRN/**$ETCO_2$** device [d]

NOTES:

a. Normal BS level is 60 - 120
b. Consider ALS if first time diabetic reaction
c. Hyperglycemia is often associated with dehydration, consider fluid replacement
d. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
e. Onset of Action of Insulin:
    a. Short Acting Insulin: onset in <15 minutes
        i. SQ
        ii. Duration 3-5 Hours
    b. Medium Onset Insulin: Onset in 30-60 minutes
        i. SQ
        ii. Duration 6-12 Hours
    c. Long Acting Insulin: onset in 60 min w/duration 24 hours
    d. Insulin types:
        i. Short Acting Insulin
            1. Novolog
            2. Apidra
            3. Humalog
        ii. Medium Onset Insulin
            1. Humulin N
            2. NPH (same as Humulin N)
            3. Humulin R
            4. Novolin N
            5. Novolin R
        iii. Long Acting Insulin
            1. Levemir
            2. Lantus

REFERENCE:

1. PCP-010 Medical Control
2. PROC-050: Capnography

3. PROC-260: Rapid Sequence Intubation MED-100: Dextrose 50% (D_{50})
4. MED-200: Glucagon
5. MED-320: Oral Glucose
6. MED-330: Oxygen
7. MED-410: Thiamine

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-230*	Effective: *August, 2008*	Revised: *June, 2009*

DIFFICULTY BREATHING: COPD/ASTHMA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Difficulty breathing**	***Wheezing**	***Tripod position**
***↑Pulse & ↑Respirations**	***Diaphoresis**	***Chest pain**
***Hypertension**	***Hypotension**	***ALOC**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory distress
3. Dyspnea with chest pain
4. Inhaled toxic substances
5. Unable to speak full sentences
6. Difficulty swallowing

BLS TREATMENT

1. ABC's, History, PE, VS, Allergies, SpO_2
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Consider the use of **CPAP**
   a. Do not use **CPAP** for patients suffering from asthma
   b. For patient suffering from Emphysema: Consider the use of **CPAP** Use **CPAP** with extreme caution in patients with end-stage COPD:
4. Assist with **Metered Dose Inhaler/Nebulizer** [(a)]
5. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(b)]
5. Consider the use of **CPAP**.
   a. Do not use **CPAP** for patients suffering from asthma
   b. Consider initial pressure in patients with end-stage COPD.
6. Fluid bolus PRN

7. For wheezing/Asthma, give **Albuterol**:
    a. After (3rd) dose combine with **Atrovent**:
    b. May use **DUO-NEB** in place of Albuterol/Atrovent mixture.
8. For status asthmaticus, give **EPI (1:1,000)** SQ: Give **Methylprednisolone**:
9. Consider use of **Magnesium Sulfite**
10. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. Only if Metered Dose Inhaler/Nebulizer is the patient's and is not outdated
b. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
c. Only if patient is non-responsive to Albuterol/Atrovent treatment
d. Contact medical control prior to giving 2nd dose of EPI

REFERENCE:

1. PROC-050: Capnography
2. PROC-080: Continuous Positive Airway Pressure (CPAP)
3. PROC-260: Rapid Sequence Intubation
4. MED-060: Albuterol
5. MED-150: DuoNeb
6. MED-160: Epinephrine
7. MED-220: Ipratropium Bromide (Atrovent)
8. MED-260: Magnesiam Sulfite
9. MED-270: Methylprednisolone (Solu-Medrol)
10. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-240*	Effective: *August, 2004*	Revised: *February, 2016*

DIFFICULTY BREATHING: PULMONARY EDEMA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Difficulty breathing**	***Diaphoresis**	***Chest pain**
***Tripod position**	***Cough**	***Cyanosis**
***Use of accessory muscles**	***Hypertension**	***Hypotension**
***ALOC**	***Pink, frothy sputum**	***Wheezing**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ↓ LOC
3. Inhaled toxic substance
4. Unable to speak full sentences
5. Drooling/Difficulty swallowing
6. Suspected Pulmonary embolus

BLS TREATMENT

1. ABC's, History, PE, VS, Allergies, SpO_2
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Consider the use of **CPAP**.
4. Assist with **Metered Dose Inhaler/NEBULIZER** [(a)]
5. Treat other signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(b)]
5. Consider the use of **CPAP**.
    a. With use of **CPAP** administer **Morphine**.
    b. For variable flow generators Use an initial setting of 30% FiO_2 at a flow rate of 140 liters/min., increase FiO_2 PRN.
    c. Consider increasing **CPAP** pressure.
6. IV access with blood draw

7. **Nitroglycerin**: , repeat x3 with SBP >100, Continue dose with SBP>140
    a. With **CPAP**, administer via **Nitro Paste** applied to anterior chest
    b. After 3 doses and still short of breath, Nitro Paste applied to anterior chest.
8. **Lasix**:
9. With SBP >100: **Morphine**:
10. Treat any arrhythmias per current ACLS guidelines

NOTES:

a. Only if Metered Dose Inhaler/Nebulizer is the patient's and is not outdated
b. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
c. Patients already taking Lasix, double their oral dose
d. If patient has never had Lasix, start with

REFERENCE:

1. PROC-050: Capnography
2. PROC-080: Continuous Positive Airway Pressure (CPAP)
3. PROC-260: Rapid Sequence Intubation
4. MED-190: Furosemide (Lasix)
5. MED-290: Morphine Sulfate
6. MED-310: Nitroglycerin
7. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-250*	Effective: *August, 2004*	Revised: *June, 2009*

HYPERTENSIVE CRISIS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Headache	****Syncope***	****Stroke symptoms***
Nausea	****Blurred vision***	****Respiratory Distress***
Confusion	****Ears ringing***	****Difficulty speaking***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Chest pain
4. Seizures
5. ALOC
6. "Worst" Headache ever
7. Systolic BP > 220 with associated Syp.
8. Diastolic BP > 130 with associated Syp.

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies [(a)]
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Place patient in position of comfort
4. Begin transport ASAP & meet ALS en-route
5. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(b)]
5. To reduce BP, contact **MEDICAL CONTROL** for: [(c) (d)]
   a. **NTG:** OR
   b. **NTG Paste:**
   c. **Labetolol:**
   d. **Morphine:**

e. **Lasix:**

6. Treat any arrhythmias per current ACLS guidelines

NOTES:

a. Always consider the cause of the hypertension.

b. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260

c. For CVA with ↑BP >220: contact **MEDICAL CONTROL** prior to reducing BP (160 Systolic is ideal).

d. Do not reduce BP if signs of ↑ ICP

REFERENCE:

1. PCP-010: Medical Control
2. PROC-050: Capnography
3. PROC-260: Rapid Sequence Intubation
4. MED-190: Furosemide (Lasix)
5. MED-230: Labetalol
6. MED-290: Morphine Sulfate
7. MED-310: Nitroglycerin
8. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-260*	Effective: *August, 2004*	Revised: *June, 2009*

HYPERTHERMIA/HEAT EMERGENCIES

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Weakness	***Dizziness***	***Muscle cramps***
****Pale, clammy skin***	****Rapid respirations***	****Hot, dry skin***
****Seizures diaphoresis***	****Flushed skin***	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. ALOC
4. Syncope
5. Signs of shock
6. Extensive medical History.

BLS TREATMENT

1. ABC's, History, PE,VS, SpO_2, Allergies, Temperature
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Remove Patient from environment [(a)]
4. Remove excess clothing PRN
5. Begin cooling process[(b)] [(c)]
6. Blood Glucose check
7. Treat other associated signs/symptoms per protocol [(d)]

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw
3. Consider fluid bolus if hypotensive
    a. Make sure to check vitals and lung sounds before and after administration of fluid

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(e)]
5. Treat any arrhythmias per current ACLS guidelines

NOTES:

a. Do not delay transport
b. Attempt to reduce temperature with cold packs to the groin, neck & armpits. Air conditioning, fans, etc…
c. Do not induce shivering
d. Watch for changes in blood pressure, such as orthostatic changes or hypotension
e. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260

REFERENCE:

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-270*	Effective: *August, 2004*	Revised: *June, 2009*

HYPOTHERMIA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Temperature < 93**	***Depressed Vitals**	***ALOC**
***Absence of shivering**	***Cold, pale skin Shivering**	
***Tachycardia Tachypnea**	***Poor muscle control**	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Abnormal breathing
3. ↓ LOC
4. Signs of shock
5. Syncope
6. Seizure

BLS TREATMENT

1. ABC's, History, PE, VS, Allergies & rectal temperature [(a) (b)]
2. Administer O_2 via non-rebreather mask, assist respirations PRN [(c)]
3. Remove from environment
4. Remove wet clothing & start warming process. [(d)]
5. Blood Glucose Check
6. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw, fluid bolus PRN [(e)]

ALS TREATMENT

1. Perform treatment as above.
2. EKG
3. Intubate PRN/$ETCO_2$ device. [(f)]
4. Treat any arrhythmias per current ACLS guidelines.
5. Consider inserting NG Tube with warm Fluids Gastric Lavage

NOTES:

a. Assess pulses for maximum of 30 seconds. If there are no pulses start CPR, consider one series of defibrillation or one round of AED protocols

b. Treat very gently, do not rub or manipulate the extremities. Keep patient supine

c. Oxygen should be heated if possible.
d. Attempt to increase temperature with hot packs to the groin, neck and armpits. Cover patient entirely with emergency blanket and ensure that their head is covered to minimize heat loss.
e. Use warm fluids if possible
f. If intubation is required, utilize the RSI procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-030: Core Body Temperatures - Hypothermia
4. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-290*	Effective: *August, 2004*	Revised: *August 2014*

OVERDOSE: AMPHETAMINE

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Hypertension**	***Chest Pain**	***Pulmonary Edema**
***Tachycardia**	***Diaphoresis**	***Dizziness, anxiety**
***Seizures**	***Angina**	***Severe Headache**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. Syncope
4. ALOC

BLS TREATMENT

1. Scene Safety.
2. ABC'S, History, PE, VS, SpO_2, Allergies.
3. Administer **O_2** via non-rebreather mask, assist respirations PRN.
4. Blood Glucose check
5. Treat other signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. 12 Lead EKG
4. Intubate PRN/**$ETCO_2$** device [(a)]
5. For sedation, give:
   a. **Haldol**: OR
   b. **Valium:** OR
   c. **Versed**
6. Treat arrhythmias per current ACLS guidelines.
7. Treat chest pain per protocol.

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. MED-110: Diazepam (Valium)
4. MED-210: Haloperidol (Haldol)
5. MED-280: Midazolam (Versed)
6. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-291*	Effective: *August, 2014*	Revised:

OVERDOSE: BETA BLOCKER

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Unable to speak**	***Depressed Vitals**	***ALOC**
***Noisy Respiration**	***Cool, Clammy**	***Restlessness**
***Tachycardia/Bradycardia**	***Tachypnea**	***Poor muscle control**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. Syncope
4. ALOC
5. Difficulty swallowing
6. Seizures
7. Intentional overdose

BLS TREATMENT

1. Scene Safety
2. ABC's, History, PE, VS, SpO_2, Allergies
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood Glucose check
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluid bolus if patient hypotensive Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/ **$ETCO_2$** device. [(a)]
5. For Beta Blocker O.D. give **Glucagon:**
6. For Seizures, give:

a. **Valium:** OR
b. **Versed**:

7. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-070: Toxindromes Chart
4. MED-110: Diazepam (Valium)
5. MED-200: Glucagon
6. MED-280: Midazolam (Versed)
7. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-292*	Effective: *August, 2014*	Revised:

OVERDOSE: CALCIUM CHANNEL BLOCKER

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Unable to speak**	***Depressed Vitals**	***ALOC**
***Noisy Respiration**	***Cool, Clammy**	***Restlessness**
***Tachycardia/Bradycardia**	***Tachypnea**	***Poor muscle control**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. Syncope
4. ALOC
5. Difficulty swallowing
6. Seizures
7. Intentional overdose

BLS TREATMENT

1. Scene Safety
2. ABC's, History, PE, VS, SpO_2, Allergies
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood Glucose check
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluid bolus if patient hypotensive
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/ **$ETCO_2$** device. [(a)]
5. For Calcium Channel Blocker O.D. give **Calcium Chloride:** For Seizures, give:
    a. **Valium:** OR
    b. **Versed**:

6. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-070: Toxindromes Chart
4. MED-090: Calcium Chloride
5. MED-110: Diazepam (Valium)
6. MED-280: Midazolam (Versed)
7. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-293*	Effective: *August, 2014*	Revised:

OVERDOSE: CNS STIMULANT

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Unable to speak**	***Depressed Vitals**	***ALOC**
***Noisy Respiration**	***Cool, Clammy**	***Restlessness**
***Tachycardia/Bradycardia**	***Tachypnea**	***Poor muscle control**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. ALOC
4. Difficulty swallowing
5. Seizures
6. Intentional overdose

BLS TREATMENT

1. Scene Safety
2. ABC's, History, PE, VS, SpO_2, Allergies
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood Glucose check
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluid bolus if patient hypotensive Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/ **$ETCO_2$** device. [(a)]
5. For CNS stimulant O.D. give **Versed**:
6. For Seizures, give:
    a. **Valium:** OR
    b. **Versed**:
7. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

8. PROC-050: Capnography
1. PROC-260: Rapid Sequence Intubation
2. REF-070: Toxindromes Chart
3. MED-110: Diazepam (Valium)
4. MED-280: Midazolam (Versed)
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-300*	Effective: *August 2004*	Revised: *January 2017*

OVERDOSE: NARCOTIC

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Respiratory distress**
***Acting different**
***Constricted pupils**
***↓LOC**
***Coma**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Seizures
4. Chest pain
5. Signs of shock

BLS TREATMENT

1. Scene Safety.
2. ABC's, History, PE, VS, SpO_2, Allergies. [(a) (b)]
3. Administer **O_2**/assist respiration PRN.
4. Blood-glucose check. [(c)]
5. For ↓ BSL, treat per hypoglycemia protocol.
6. No response with normal BS, give Narcan
7. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluid bolus if patient hypotensive
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device. [(d)]
5. No response with normal BS, give **Narcan:** Treat cardiac arrhythmias per current ACLS guidelines.

NOTES:

- **a.** When doing exam, be careful of drug paraphernalia
- **b.** Patient will have constricted pupils if this is a narcotic overdose
- **c.** Normal Blood Glucose Level is 60 – 120
- **d.** If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
- **e.** In addicted patients, Narcan can cause severe withdrawal reactions.

REFERENCE

1. PROC-050: Capnography
2. PROC-215: Naloxone (Narcan) Administration for EMT
3. PROC-260: Rapid Sequence Intubation
4. REF-070: Toxindromes Chart
5. MED-300: Naloxone (Narcan)
6. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-302*	Effective: *August, 2014*	Revised:

OVERDOSE: PHENOTHIAZINE

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Unable to speak**	***Depressed Vitals**	***ALOC**
***Noisy Respiration**	***Cool, Clammy**	***Restlessness**
***Tachycardia/Bradycardia**	***Tachypnea**	***Poor muscle control**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. ALOC
4. Difficulty swallowing
5. Seizures
6. Intentional overdose

BLS TREATMENT

1. Scene Safety
2. ABC's, History, PE, VS, SpO_2, Allergies
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood Glucose check
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluid bolus if patient hypotensive
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/ **$ETCO_2$** device. [(a)]
5. For Phenothiazine O.D. give **Diphenhydramine**: For Seizures, give:
    a. **Valium** OR
    b. **Versed**:
6. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-070: Toxindromes Chart
4. MED-110: Diazepam (Valium)
5. MED-130: Diphenhydramine (Benadryl)
6. MED-280: Midazolam (Versed)
7. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-304*	Effective: *August, 2014*	Revised:

OVERDOSE: TRICYCLIC ANTI-DEPRESSANTS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Unable to speak**	***Depressed Vitals**	***ALOC**
***Noisy Respiration**	***Cool, Clammy**	***Restlessness**
***Tachycardia/Bradycardia**	***Tachypnea**	***Poor muscle control**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. ALOC
4. Difficulty swallowing
5. Seizures
6. Intentional overdose

BLS TREATMENT

1. Scene Safety
2. ABC's, History, PE, VS, SpO_2, Allergies
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood Glucose check
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluid bolus if patient hypotensive
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/ **$ETCO_2$** device. [(a)]
5. For Tricyclic Ant-Depressants O.D. give **Sodium Bicarbonate:**
6. For Seizures, give:
    a. **Valium:** OR
    b. **Versed**:

7. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. REF-070: Toxindromes Chart
4. MED-110: Diazepam (Valium)
5. MED-280: Midazolam (Versed)
6. MED-330: Oxygen
7. MED-370: Sodium Bicarbonate

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-310*	Effective: *August, 2004*	Revised: June, 2009

PEDIATRIC EMERGENCIES: DIFFICULTY BREATHING

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Extreme Difficulty**	***Audible wheezing**	***Rapid HR rate**
***Diaphoresis**	***Tripod position**	***Cyanosis**
***Acutely ill with fever**	***Use of accessory muscles**	***See-Saw breathing**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ALOC
3. Respiratory distress
4. Inhaled toxic substance
5. Unable to speak full sentences
6. Drooling/Difficulty swallowing

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies.
2. Calm patient and keep in position of comfort. [(a) (b)]
3. Administer **O_2** via non-rebreather mask, assist respirations PRN. [(c)]
4. Assist with Metered Dose Inhaler/Nebulizer. [(d)]
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIANS TREATMENT

1. Perform treatment as above.
2. IV access PRN

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(e) (f)]
5. Consider IO access in severely sick or after 2 failed IV attempts.
   a. For wheezing, give **Albuterol**: May utilize **DuoNeb** in place of Albuterol and Atrovent.
6. For status Asthmaticus, give **Epinephrine:** Also for Asthma, give **Solu-Medrol:**
7. Treat other associated signs/symptoms per protocol.

NOTES:

a. If epiglottitis is suspected, do not place anything in the child's mouth and do not agitate the patient. Transport rapidly with parent. Symptoms include drooling, sore throat, muffed voice, fever, and pain with swallowing.
b. If croup is suspected, have the child spend a few minutes with their parents in a steamed bathroom or outside allowing the child to breathe cool air prior to getting in the ambulance.
c. When providing **O_2** for the Croup or Epiglottitis patient, have a parent hold the mask and use the blow by technique. Also for Croup, use humidified O_2 if possible.
d. Only if Metered Dose Inhaler/Nebulizer is the patient's and is not outdated.
e. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
f. Consider inserting **NG tube** as outlined in PROC-230.
g. To be used in asthma only with severe respiratory distress with marked bronchoconstriction and decreases tidal volume. Contact **MEDICAL CONTROL** prior to 2nd dose

REFERENCE

1. PCP-010: Medical Control
2. PROC-050: Capnography
3. PROC-230: Nasogastric Tube Insertion
4. PROC-260: Rapid Sequence Intubation
5. MED-060: Albuterol
6. MED-150: DuoNeb
7. MED-160: Epinephrine
8. MED-220: Ipratropium Bromide (Atrovent)
9. MED-270: Methylprednisolone (Solu-Medrol)
10. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-320*	Effective: *August, 2004*	Revised: *June, 2009*

PEDIATRIC EMERGENCIES: FEVER

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Flushed dry/hot skin	***Restlessness***	****Seizures***
Rash or stiff neck	***Nausea/Vomiting***	****Dehydration***
Spike in Temperature	***Loss of appetite***	****ALOC***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory distress
3. Seizures
4. Signs of Shock

BLS TREATMENT

1. ABC's, History, PE, VS, SpO_2, Allergies, Temperature.
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Remove any heavy clothing.
4. Do not induce shivering.
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIANS TREATMENT

1. Perform treatment as above.
2. IV access PRN
    a. Consider fluid bolus if hypotensive.
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(a) (b)]
5. Consider **IO** insertion after 2 failed attempts PRN (severe hypotension).
6. For Fever, give **Tylenol:**
7. For continuous Febrile Seizures consider **Diazepam or Versed**

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
b. Consider inserting **NG tube** as outlined in PROC-230

REFERENCE

1. PROC-050: Capnography
2. PROC-180: Intraosseous Infusion - Pediatric
3. PROC-230: Nasogastric Tube Insertion
4. PROC-260: Rapid Sequence Intubation
5. MED-010: Acetaminophen (Tylenol)
6. MED-110: Diazepam (Valium)
7. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-330*	Effective: *August, 2004*	Revised: *June, 2009*

PEDIATRIC EMERGENCIES: NEONATAL RESUSCITATION

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Unresponsive**	***Apneic**	***Pulseless**
***HR<100**	***Respiratory distress**	***Central cyanosis**

REQUIRED PARAMEDIC EVALUATION

1. Automatic ALS.

BLS TREATMENT

1. ABC's
   - **a.** HR <60 initiate CPR.
   - **b.** HR >80 assist respirations.
     i. If no improvement of HR with respirations and still <80 initiate CPR.
2. Administer O_2, assist respirations PRN.
3. Attempt to get patient history if time permits. **(a)**
4. Ensure patient is warm and dry, prevent heat loss.
5. Blood Glucose check.
6. Transport/rendezvous with ALS unit.

IV TECHNICIANS TREATMENT

1. Perform treatment as above.
2. IV access PRN

ALS TREATMENT

1. Perform treatment as above.
2. Administer O_2 via appropriate device.
3. EKG.
4. Intubate PRN/$ETCO_2$ device. **(b) (c) (d)**
5. IO access after 2 failed IV attempts.
6. If no response, follow current PALS guidelines for resuscitation.
7. Use Length Based Resuscitation.

NOTES:

- **a.** If ALS unit is delayed, you should start transport and rendezvous with them.
- **b.** Consider inserting NG tube due to using an uncuffed tube.

c. If meconium is present: Once baby is delivered, *do not immediately dry infant.* Immediately visualize cords, suction vigorously through ET tube with a meconium aspirator. Re-intubate and repeat procedure as necessary to retrieve meconium. If baby has already started breathing do not attempt deep intubation suction.

d. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-180: Intraosseous Infusion – Pediatric
3. PROC-230: Nasogastric Tube Insertion
4. PROC-260: Rapid Sequence Intubation
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-340*	Effective: *August, 2004*	Revised: *June, 2009*

PEDIATRIC EMERGENCIES: UNCONSCIOUS/COMA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Medical alert tag	****Abnormal breathing***	***Bizarre behavior***
Nausea/Vomiting	****ALOC***	****Evidence of Trauma***
Recent illness	***Fever***	***New medications***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Seizure activity
4. Abnormal Heart Rate

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Administer **O_2** via non-rebreather mask, assist respirations PRN.
3. Blood-glucose check - For ↓ BSL, give: **Oral Glucose:** (if mentation allows) (Heel Stick for Infant).
4. If trauma is suspected, take C-spine precautions.
5. Rapid transport.
6. Treat other associated signs/symptoms per protocol.

IV TECHNICIANS TREATMENT

1. Perform treatment as above
2. IV access with blood draw.
    a. Consider fluid bolus if hypotensive.
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG.
4. Intubate PRN/**$ETCO_2$** device. [(a) (b)]
5. **IO** access after 2 failed IV attempts.
6. For ↓ BSL, give:
    a. **D_{25}**: OR
    b. **Glucagon**: (if no IV access)

7. Still unresponsive, give **Narcan**:.
8. Treat cardiac arrhythmias per current PALS guidelines.

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
b. Consider inserting **NG tube** due to using an uncuffed tube.

REFERENCE

1. PROC-050: Capnography
2. PROC-180: Intraosseous Infusion – Pediatric
3. PROC-230: Nasogastric Tube Insertion
4. PROC-260: Rapid Sequence Intubation
5. MED-100: Dextrose 50% (use for D_{25})
6. MED-200: Glucagon
7. MED-300: Naloxone (Narcan)
8. MED-320: Oral Glucose
9. MED-330: Oxygen
10.

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-345*	Effective: *August, 2014*	Revised:

POISONINGS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Unable to speak**	***Depressed Vitals**	***ALOC**
***Noisy Respiration**	***Cool, Clammy**	***Restlessness**
***Tachycardia/Bradycardia**	***Tachypnea**	***Poor muscle control**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Respiratory Distress
3. ALOC
4. Ingestion of any type of cleaner
5. Ingestion of multiple Rx. medicines
6. Difficulty swallowing
7. Alcohol overdose
8. Seizures
9. Intentional overdose

BLS TREATMENT

1. Scene Safety
2. ABC's, History, PE, VS, SpO_2, Allergies
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Blood Glucose check
5. Contract Poison Control and/or **MEDICAL CONTROL** (a) (b) (c)
6. With direction from Poison Control, give **Activated Charcoal:**
7. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
   a. Consider fluid bolus if patient hypotensive
   b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG

4. Intubate PRN/ **$ETCO_2$** device. [(d)]
5. For Organophosphate Poisoning give **Atropine** For Seizures, give:
    a. **Valium:** OR
    b. **Versed**:
6. Treat cardiac arrhythmias per current ACLS guidelines

NOTES:

a. Try to identify substance and quantity taken.
b. If substance is unidentifiable, try to bring container with you.
c. Poison Control number: 1-800-222-1222
d. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PCP-010: Medical Control
2. PROC-050: Capnography
3. PROC-260: Rapid Sequence Intubation
4. REF-070: Toxindromes Chart
5. MED-030: Activated Charcoal
6. MED-080: Atropine
7. MED-110: Diazepam (Valium)
8. MED-280: Midazolam (Versed)
9. MED-330: Oxygen

Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-350*	Effective: *August, 2004*	Revised: *June, 2009*

PREGNANCY: BIRTH COMPLICATIONS

REQUIRED PARAMEDIC EVALUATION

1. Automatic ALS

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Administer **O_2** via non-rebreather mask, assist respirations PRN
3. Place Patient in the prone position, knee to chest for breech delivery[(a)], prolapsed cord[(b)] and limb presentation.[(c)]
4. Do not delay transport, rendezvous with ALS en-route.
5. If childbirth is imminent, prepare for delivery.
6. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Fluid bolus PRN
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.

NOTES:

a. If unable to deliver head, place gloved index finger and middle finger into vagina with palm towards the baby's face forming a "V" with your fingers to maintain airway. Transport immediately

b. Place sterile gloved index and middle finger into the vagina, pushing the infant up to relieve pressure on the cord. Transport immediately.

c. Transport immediately if there is limb presentation

REFERENCE

1. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-360*	Effective: *August, 2004*	Revised: *June, 2009*

PREGNANCY: EMERGENCY DELIVERY

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Abdominal pain	****ALOC***	****Seizures***
Vaginal bleeding	***Weakness/Dizziness***	****Signs of shock***
Nausea/Vomiting	****Edema in face or extremities***	
****Meconium Staining***	****Urge to have a bowel movement***	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Difficulty breathing
3. Syncope
4. Bleeding
5. Premature labor > 4 weeks early
6. Delivery
7. Seizure
8. Abdominal injury with contractions
9. Hypertension

TXPRT Required for all Field Deliveries.

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Administer **O_2** via non-rebreather mask, assist respirations PRN.
3. Place in left lateral recumbent, unless birth is imminent.
4. Childbirth imminent, prepare for delivery. [(a)]
5. Give newborn care:
    a. Suction mouth first, then nose.
    b. Clamp then cut cord (6 & 8 inches).
    c. Dry newborn thoroughly.
    d. Keep newborn warm.
    e. Assess **APGAR** at 1 and 5 minutes after delivery.
    f. Give newborn to mother and encourage nursing.
6. Initiate post-partum care:
    a. Allow placenta to delivery. [(b)]
    b. Massage uterus until firm.
    c. Apply pressure with perineal pad if continuous bleeding.
7. Estimate blood loss, watch for post-partum hemorrhage.
8. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw.
    a. Fluid bolus PRN
    b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer O_2 via appropriate device.
3. EKG.

NOTES:

a. Transport is required for ALL deliveries.
b. Be aware of the possibility of multiple births
c. Do not pull on cord and do not delay transport for delivery of placenta

REFERENCE

1. REF-010: APGAR Scale
2. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-370*	Effective: *August, 2004*	Revised: *June, 2009*

PREGNANCY: PRE-ECLAMPSIA/ECLAMPSIA

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Edema of ↓extremities	***Sudden weight gain***	****Seizures***
****ALOC***	****Dark Urine***	
****After 20 wks***	***BP>160/110***	
****Hypertension***		

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. ↓ LOC
3. Seizures
4. ↑ in Systolic BP

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Administer **O_2** via non-rebreather mask, assist respirations PRN.
3. Place in Left lateral recumbent position.
4. Transport gently. [(a) (b)]
5. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. For Seizure's, give: **Magnesium Sulfate:** .
5. If no response, give: **Valium:** .
6. Severe Hypertension consider: **Labetalol**

NOTES:

a. Sirens and flashing lights may precipitate seizures.

b. If ALS ETA delayed, consider rendezvous/transport after contact with responding ALS unit.

REFERENCE

1. REF-010: APGAR Scale
2. MED-110: Diazapam (Valium)
3. MED – 230: Labetalol
4. MED-260: Magnesium Sulfate
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-380*	Effective: *August, 2004*	Revised: *June, 2009*

PREGNANCY: POSTPARTUM CARE

REQUIRED PARAMEDIC EVALUATION

1. Birth complications
2. Signs of shock
3. Uncontrolled vaginal bleeding
4. Newborn - Unconscious or not breathing
5. Newborn with HR <80
6. Meconium present

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Administer **O_2** via non-rebreather mask, assist respirations PRN.
3. Massage fundus, encourage mother to breast feed.
4. Keep warm & ↑ feet.
5. Treat infants according to appropriate pediatric care protocol.
6. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access if not done already.
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. For uncontrolled bleeding: **Oxytocin**:

REFERENCE

1. MED-330: Oxygen
2. MED-340: Oxytocin

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-390*	Effective: *August, 2004*	Revised: *June, 2009*

PREGNANCY: SPONTANEOUS ABORTION [a]

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Suspicion of pregnancy	***Vaginal bleeding***	***Cramps***
Contractions	****Passage of tissue***	

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. ↓ LOC
3. Signs of shock
4. Difficulty breathing
5. Uncontrolled vaginal bleeding

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Administer O_2 via non-rebreather mask, assist respirations PRN.
3. Keep warm
4. If signs of shock: ↑ feet
5. Apply loose perineal pad.
6. Collect any tissue passed & bring it to the hospital.
7. Treat other associated signs/symptoms per protocol. [b]

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw PRN.
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer O_2 via appropriate device.
3. EKG.

NOTES:

a. Abortion is defined as, a loss of pregnancy before the twentieth week of gestation.
b. You will need to provide as much emotional support as possible.

REFERENCE

1. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-400*	Effective: *August, 2004*	Revised: *June, 2009*

SEIZURES

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Medical alert tag	***Incontinence***	****Pregnancy***
Head or mouth trauma	****Seizure activity > 5mins***	****ALOC***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. Status Seizures
3. First time seizure
4. Diabetic
5. Secondary to illicit drugs
6. Secondary to head injury

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. Protect patient from injury.
3. Administer **O_2** via non-rebreather mask, assist respirations PRN.
4. C-spine precautions PRN.
5. Blood Glucose check.
6. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. Intubate PRN/**$ETCO_2$** device. [(a)]
5. For Seizure, give:
    a. **Valium:** OR
    b. **Versed**
6. Treat cardiac arrhythmias per current ACLS guidelines.

NOTES:

Conditions that may cause Seizures
- Epilepsy - Fever
- Infections - Poisoning
- Stroke - Hypoglycemia
- Hypoxia - Dysrhythmia
- Head Trauma - Eclampsia

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. PROC-280: Spinal Immobilization
4. MED-110: Diazepam (Valium)
5. MED-280: Midazolam (Versed)
6. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-410*	Effective: *August, 2004*	Revised: *June, 2009*

SEXUAL ASSAULT

BLS TREATMENT

1. Have Law enforcement notified/scene safety.
2. ABC, History, PE, VS.
3. Treat any injuries per applicable protocols. [(a)]
4. Do no allow patient to bathe, douche, etc…
    a. Collect clothing worn during assault, if clothing already changed and law enforcement is not on-scene.
    b. Transport clothes in **paper bag**, maintaining chain of evidence.
    c. If patient needs to urinate, have the patient collect urine and wipes in urinal, maintaining the chain of evidence.
5. Transport.
6. Notify receiving hospital

IV TECHNICIAN TREATMENT

1. Perform treatment as above.

ALS TREATMENT

1. Perform treatment as above.

NOTES:

a. Give emotional support; if patient is unwilling to answer questions, do not press.

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-420*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: AMPUTATION/PARTIAL AMPUTATION

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***No distal pulse**	***No distal sensory**	***No distal movement**
***Syncope**	***ALOC**	***Hypovolemia**
***Uncontrolled bleeding**	***Anxiety**	***Extreme Pain**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. Difficulty breathing
3. Hypotension
4. Amputation above wrist or ankle
5. Severe MOI

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. C-spine precautions PRN.
3. Administer **O_2** via non-rebreather mask, assist respirations PRN.
4. Control bleeding. [(a)]
5. Stump treatment:
   a. Cover with sterile dressing.
   b. Saturate dressing with saline.
   c. Cover with a dry dressing.
6. Severed Part:
   a. Wrap part with moistened gauze, place in a plastic bag.
   b. Place bag on ice, cold packs, etc. [(b)]
   c. Label with Name, Date, and Time.
7. Partial Amputation:
   a. Cover with sterile dressing.
   b. Saturate dressing with saline.
   c. Cover with a dry dressing.
   d. If no pulse or sensation, move to a neutral anatomical position.
8. Treat other associated signs/symptoms per protocol
9. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access (Large Bore IV Preferred).
   a. Fluid bolus PRN

b. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. For pain, give:
    A. **Morphine**: OR
    B. Fentanyl:

NOTES:

a. Control bleeding by direct pressure, use of pressure point, or tourniquet.
b. Do not use dry ice or put severed part in direct contact with ice.

REFERENCE

1. PROC-280: Spinal Immobilization
2. REF-080: Trauma Triage
3. MED-180: Fentanyl
4. MED-290: Morphine Sulfate
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-430*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: ANIMAL BITES

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***Hives**	***Burning sensation at site**	***Chest tightness**
***Anaphylactic shock**	***Abnormal pulse rate**	***Headache/Dizziness**
***Difficulty breathing**	***Nausea/Vomiting**	***Weakness/Syncope**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. Uncontrolled bleeding
3. Respiratory distress
4. Serious face/neck trauma
5. Bite from poisonous animal
6. Signs of shock
7. ↓ LOC

BLS TREATMENT

1. Scene Safety: Notify Law Enforcement as needed.
2. ABC, History, PE, VS, SpO_2.
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Remove jewelry or any constricting items.
5. Scrape away stingers or venom.
6. Wash area gently.
7. Dress wound PRN.
8. Immobilize the extremity level to or below the heart.
9. Document the identity of the organism.
10. Treat other associated signs/symptoms per protocol.
11. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.

2. Administer **O_2** via appropriate device.
3. EKG.
4. For Pain, give:
    a. **Morphine**: OR
    b. **Fentanyl**:

REFERENCE

1. REF-080: Trauma Triage
2. MED-180: Fentanyl
3. MED-290: Morphine Sulfate
4. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-440*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: ASSAULT

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Obvious bleeding	***Confusion***	***Paleness***
****Signs of internal bleeding***	****Deformity to the head***	****ALOC***
Deformity to torso	***Diaphoresis***	***Hypotension***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. ↓LOC
3. Any significant blunt trauma
4. Uncontrolled bleeding
5. Seizures secondary to head injury

BLS TREATMENT

1. Scene Safety/Make sure law is on-scene.
2. Crime Scene preservation
3. ABC, History, PE, VS, SpO_2.
4. C-spine precautions PRN.
5. Control any bleeding.
6. Administer **O_2** via non-rebreather mask, assist respirations PRN.
7. Blood Glucose check PRN.
8. Treat other associated signs/symptoms per protocol.
9. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw - large bore IV preferred.
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. For Pain, give:
    a. **Morphine**: OR
    b. **Fentanyl**:

5. Treat other associated signs/symptoms per protocol.
6. Determine if patient meets criteria for major trauma.

REFERENCE

1. PROC-090: Crime Scene Preservation
2. PROC-280: Spinal Immobilization
3. REF-080: Trauma Triage
4. MED-180: Fentanyl
5. MED-290: Morphine Sulfate
6. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-450*	Effective: *June, 2009*	Revised:

TRAUMA: BURNS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

***ALOC**	***Respiratory Distress**	***Cough**
***Swelling**	***Pain**	***Associated Trauma**
***Singed Nasal Hair**		

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive.
2. Difficulty breathing.
3. Wheezing.
4. Signs and symptoms of shock.
5. Burns involving face, airway, hands, feet or genitalia.
6. Combination of burns ≥19% in adults
7. Electrical burns.
8. Partial or full thickness burns greater than 1% BSA in patients 5 years old and under.
9. Severe pain.
10. Burns associated with fractures.
11. Patient confinement in an enclosed space.

BLS TREATMENT

1. Scene Safety: Do not enter the scene if danger is still present.
2. Safely remove the patient from the source of the burn/stop burning process.
3. Remove burning or smoldering clothing that is not melted to the patient's skin.
4. In the case of chemical burns: wash off all chemicals with copious amounts of water.
    a. Dry chemicals should be brushed off prior to washing.
5. ABC, History, PE, VS (CPR PRN), SpO_2.
6. C-spine precautions PRN.
7. Administer **O_2** via non-rebreather mask, assist respirations PRN.
8. Remove constrictive items (rings, etc.) as needed.
9. Determine Body Surface Area (BSA) burned.
10. Apply sterile dry dressing to burn area.
11. Do not apply ointment, lotion or antiseptic.
12. Prevent hypothermia.
13. Treat other associated signs/symptoms per protocol.
14. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.
    a. Consider fluids based on the parkland formula:
        i. Fluid for first 24 hours (ml) = 4 x Patient's weight in kg x % BSA
        ii. Half of above fluid should be given in the first 8 hours.
    b. Avoid burn area if possible when establishing vascular access.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2**via appropriate device.
3. EKG**.**
4. Intubate PRN/**$ETCO_2$** device. [(a)]
5. Remove constrictive items (rings, etc.) as needed.
6. For pain consider:
    a. **Morphine**: OR
    b. **Fentanyl**:
7. Consider co-morbid factors:
    a. Hypotension.
    b. Age: <12, >55.
    c. Circumferential.
    d. High risk area: genitalia, hands, feet or face.
    e. Suspected inhalation injuries: Singed nasal hairs, stridor, sooty airways, hoarse voice or history of enclosed space indicate a potential for CO poisoning or airway injury. Consider aggressive airway management.
    f. Co-existing major trauma.
    g. Electricity: Cardiac monitoring and **12-Lead** if available. Consider path of damage. Treat entrance and exit soft tissue injuries.
    h. Blast Injury: immobilize for C-spine precautions, consider baro-trauma, and be alert of secondary blast devices.

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-010: 12-Leads
2. PROC-050: Capnography
3. PROC-260: Rapid Sequence Intubation
4. PROC-280: Spinal Immobilization
5. REF-050: Rule of Nines
6. REF-080: Trauma Triage
7. MED-180: Fentanyl
8. MED-290: Morphine Sulfate
9. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-460*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: DROWNING/NEAR DROWNING

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Seizures**	***ALOC**	***Cough**
***Pink, frothy sputum**	***Apnea**	***Respiratory Distress**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. Difficulty breathing
3. Submersion > 1minute [(a)]
4. Scuba diving accident

BLS TREATMENT

1. C-spine precautions PRN.
2. Remove patient from the environment.
3. ABC, History, PE, VS (CPR PRN), SpO_2. [(b)]
4. Administer **O_2** via non-rebreather mask, assist respirations PRN
    a. Insert **Combi-Tube** if patient is apneic and has no gag reflex
5. Remove wet clothing.
6. Check core temperature.
7. Keep warm.
8. Consider the use of **CPAP**.
9. Treat other associated signs/symptoms per protocol.
10. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device. [(c)]
5. Consider the use of **CPAP**.
6. Treat cardiac arrhythmias per current ACLS guidelines. [(d)]
7. For prolonged submersion, give:
    a. **Sodium Bicarbonate**:

NOTES:

- **a.** All patients suspected of submersion should be transported and evaluated at the ER.
- **b.** A drowning/near drowning patient is not deceased until warm.
- **c.** If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
- **d.** The most common arrhythmia associated with drowning is V-fib.

REFERENCE

1. PROC-050: Capnography
2. PROC-080: Continuous Positive Airway Pressure (CPAP)
3. PROC-120: Esophageal Tracheal Combi-Tube
4. PROC-260: Rapid Sequence Intubation
5. PROC-280: Spinal Immobilization
6. REF-080: Trauma Triage
7. MED-330: Oxygen
8. MED-370: Sodium Bicarbonate

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-470*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: FALLS/ACCIDENTS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Paleness	****Hypotension***	****Signs of internal bleeding***
****ALOC***	***Obvious bleeding***	****Rapid, weak pulse***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. ↓ LOC
3. Uncontrolled bleeding
4. Seizures secondary to head injury
5. Any penetrating/blunt trauma to head, neck, torso, or pelvis

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. C-spine precautions PRN.
3. Control any bleeding.
4. Administer **O_2** via non-rebreather mask, assist respirations PRN.
5. Apply splints PRN as time permits
6. Blood Glucose Check
7. Treat other associated signs/symptoms per protocol.
8. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw - large bore IV preferred.
   - **a.** Fluid bolus PRN
   - **b.** Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device. [(a)]
5. For Pain, consider:
   a. **Morphine**:) OR

b. **Fentanyl**:

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. PROC-280: Spinal Immobilization
4. REF-080: Trauma Triage
5. MED-180: Fentanyl
6. MED-290: Morphine Sulfate
7. MED-330: Oxygen

*****

Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-480*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: FRACTURES & DISLOCATIONS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

Localized pain	***Tenderness***	***Swelling***
****Loss of distal pulse***	****Loss of Sensation***	****Loss of motor func.***
Acute angulation	***Crepitis***	***Guarding***
****Extreme pain***		

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. Difficulty breathing
3. ALOC
4. Seizures
5. Pelvic injury
6. Femur injury
7. Signs of shock
8. Any loss of PMS

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. C-spine precautions PRN.
3. Administer **O_2** via non-rebreather mask, assist respirations PRN.
4. Control any bleeding.
5. Evaluate Fracture/stabilize extremity. **(a) (b) (c)**
6. Check pulse, motor function, & sensation,
    a. Pull traction
    b. Move to neutral inline position
7. Apply sterile dressing to any open fracture.
8. Elevate isolated extremity fractures.
9. Apply cold pack to reduce pain/swelling.
10. For multiple lower extremity and/or pelvic fractures, consider **MAST Pants** for stabilization.
    a. For pelvic fractures consider use of **Pelvic Wrap Splint**
11. Treat other associated signs/symptoms per protocol.
12. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw - large bore IV preferred.

a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. For isolated extremity fracture or dislocation, for pain, give:
    a. **Morphine**: OR
    b. **Fentanyl**:
5. Treat other associated signs/symptoms per protocol
6. Determine if patient meets criteria for major trauma.

NOTES:

a. If there is severe deformity or the distal extremity is cyanotic or lacks pulses, align with gentle traction to achieve return of circulation before splinting.
b. If no problems with pulse, motor function, or sensation, splint in position found.
c. Check for pulses, motor function, & sensation before and after splinting

REFERENCE

1. PROC-190: M.A.S.T. Pants
2. PROC-240: Pelvic Wrap Splint
3. PROC-280: Spinal Immobilization
4. REF-080: Trauma Triage
5. MED-180: Fentanyl
6. MED-290: Morphine Sulfate
7. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-490*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: MOTOR VEHICLE COLLISIONS

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Head/Neck trauma	****Loss of P.M.S***	***Paleness***
****ALOC***	***Obvious bleeding***	****Rapid, weak pulse***
****Hypotension***	****Signs of internal bleeding***	****Penetrating wound***

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. ↓ LOC
3. Respiratory distress
4. Chest Pain
5. Patient was ejected
6. Patient extrication > 20mins
7. Identify any Major Trauma Patients

BLS TREATMENT

1. Assure scene safety.
    a. Utilize law Enforcement for traffic control as needed.
2. ABC, History, PE, VS, SpO_2.
3. C-spine precautions PRN. [(a)]
4. Control any bleeding.
5. Administer O_2 via non-rebreather mask, assist respirations PRN.
6. Apply splints PRN as time permits.
7. Blood Glucose check.
8. Treat other associated signs/symptoms per protocol.
9. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw - large bore IV preferred.
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer O_2 via appropriate device.
3. EKG.

4. Intubate PRN/**ETCO$_2$** device. [b]

NOTES:

a. If patient is stable, consider use of KED for extrication.
b. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. PROC-280: Spinal Immobilization
4. REF-080: Trauma Triage
5. MED-330: Oxygen

*****

Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-500*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: MULTI-SYSTEM/GENERAL

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Seizures**	***ALOC**	***Difficulty Breathing**
***Chest Pain**	***Hypotension**	***Tachycardia**
***Loss of consciousness**	***Signs of internal bleeding**	***Bleeding**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. ↓ LOC
3. Respiratory distress
4. Penetrating/blunt trauma to head, chest, torso, or pelvis.
5. Patient extrication > 20mins
6. Patient was ejected/ MOI

BLS TREATMENT

1. Assure scene safety.
2. ABC, History, PE, VS, SpO_2.
3. C-spine precautions PRN.
4. Control any bleeding.
5. Administer **O_2** via non-rebreather mask 15 l/min, assist respirations PRN.
6. Apply splints PRN as time permits.
7. Blood Glucose check.
8. Rapid transport/Rendezvous with ALS. [(a)]
9. Treat other associated signs/symptoms per protocol.
10. Determine if patient meets criteria for major triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw - large bore IV preferred.
    a. Consider starting 2 IV lines.
    b. Fluid bolus PRN
    c. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.

3. EKG.
4. Intubate PRN/**$ETCO_2$** device. [b]

NOTES:

a. Limit on-scene time to 10 minutes.

b. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. PROC-280: Spinal Immobilization
4. REF-080: Trauma Triage
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-510*	Effective: *August, 2004*	Revised: *June, 2009*

TRAUMA: PNEUMOTHORAX/TENSION PNEUMOTHORAX

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Chest pain**	***Respiratory distress**	***Increased Heart Rate**
***Asymmetrical chest**	***Falling SpO_2**	***Signs of hypoxia**
***JVD**	***Tracheal deviation**	***Tachypnea**
***Signs of Trauma**	***↓Tidal Volume**	***Signs of Shock**

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/Unresponsive
2. ↓ LOC
3. ↓ in Respiratory status
4. Pain with respirations

BLS TREATMENT

1. ABC, History, PE, VS, SpO_2.
2. C-spine precautions PRN.
3. Administer **O_2**/Assist respirations PRN.
4. Rapid transport/Rendezvous with ALS. [(a)]
5. Treat other associated signs/symptoms per protocol.
6. Determine if patient meets criteria for trauma triage.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. IV access with blood draw - large bore IV preferred.
    d. Fluid bolus PRN
    e. Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. Intubate PRN/**$ETCO_2$** device. [(b)]
5. Consider **Needle Thoracentesis**.

NOTES:

a. Limit on-scene time to 10 minutes.

b. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.

REFERENCE

1. PROC-050: Capnography
2. PROC-220: Needle Thoracentesis
3. PROC-260: Rapid Sequence Intubation
4. REF-080: Trauma Triage
5. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-520*	Effective: *June, 2009*	Revised: *October, 2009*

VIRAL RESPIRATORY DISEASE PANDEMIC (PANFLU)/ H1N1 VACCINATION PROTOCOL

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
Cough	***Nausea***	***Vomiting***
Diarrhea	***Dizziness***	****Respiratory Distress***
Feverish		

REQUIRED PARAMEDIC EVALUATION

1. Unconscious/ Unresponsive
2. Abnormal/Difficulty breathing
3. Hypotension

GENERAL INFORMATION

1. Triggers for Pandemic Protocol Activation
    a. Activation of the EMS Viral Respiratory Disease, Pandemic Protocol will be made by the Medical Program Director in consultation with the Public Health Officer.
    b. Communications
        i. 9-1-1 Operations/Dispatch
            1. Advise emergency responders of positive symptom(s) patients.
        ii. Situation Reports
            1. The Medical Program Director in conjunction with the Public Health Officer will provide situation reports to emergency responder agencies to distribute to stations/personnel.
        iii. Crew Briefings – All EMS agencies will provide ongoing briefings to their responders to include:
            1. Status of outbreak including last 24 hour activity
            2. Hospital status
            3. PPE, Infection Control
            4. Status of EMS Pandemic SOP
2. Worker Safety/Infection Control
    a. Personal Protective Equipment (PPE):
        i. Enhanced PPE Procedures:
            1. All Patient Contact – standard universal precautions or PPE including: gloves, NIOSH approved mask, and eye protection.

2. Patients with respiratory/GI symptoms – PPE outlined above, plus: disposable gown/overalls and shoe covers; cover patient with surgical face mask.
3. Change in response configuration to minimize personnel exposure at each call.
4. Every Job Regardless of Pt. Contact – PPE including: NIOSH approved mask, eye protection, regular hand washing, and cleaning of work surfaces (minimum prior to each shift/staff change)

b. Vaccination / Antiviral Therapy:
   i. Emergency Responder Points of Distribution (POD) – Agency management in consultation with the County Health Department will consider/coordinate activation of an Emergency Responder PODs for appropriate vaccination/antiviral therapy.
   ii. Staff Entry Control Process:
      1. All EMS agencies shall establish a decontamination and health care screening site(s) to clear employees prior to entering the work site and start of each shift.

c. Decontamination and Cleaning of Equipment/Work Areas
   i. Enhanced Decontamination Procedures:
      1. Clean off all surfaces and equipment (including glasses and stethoscope) using the approved bio spray or alcohol based hand cleaner.
      2. Dispose of all cleaning supplies in red hazardous waste bag
      3. (Driver Prior to Transport/Attending Technician at end of Transport/patient care) Remove disposable gown/overalls, face mask, gloves and disposable BP cuff into hazardous waste bag and secure.
      4. Responders: Place all equipment used during the call in a red hazardous waste bag until decontamination prior or en-route to next call.
      5. Use bio-wipes or alcohol based hand cleaner to clean hands and forearms until soap and water are available
      6. (Driver on arrival at receiving facility) Use new suit, gloves, face mask, and eye protection.
      7. Once patient has been transferred, decontaminate inside of ambulance patient care area and equipment prior to arrival at next call.

BLS TREATMENT

1. PPE
2. ABC's, History, PE, VS, SpO_2, Allergies
   a. Medical History Travel History
3. Administer **O_2** via non-rebreather mask, assist respirations PRN
4. Place patient in position of comfort
5. Proper cooling techniques based on temperature

6. Begin transport meet ALS en-route as needed.
    a. Close off ambulance driver's compartment.
    b. Drape patient / Isolation Pod.
    c. Early EMS report to receiving facility.
7. If home care and no transport:
    a. Provide information on home care, to include decontamination and cleaning.
    b. Advise to call 9-1-1 should worsening symptoms occur.
8. If time allows based on patient condition, perform mouth and throat swabs of members within the immediate area patient living/work area if equipment available.
9. Treat other associated signs/symptoms per protocol

IV TECHNICIAN TREATMENT

1. Perform treatment as above
2. IV access with blood draw
    a. TKO, or
    b. Provide fluid challenge if patient dehydrated.

ALS TREATMENT

1. Perform treatment as above
2. Administer **O_2** via appropriate device.
3. EKG
4. Intubate PRN/**$ETCO_2$** device [(a)]
5. For Fever Control consider **Acetaminophen**

H1N1 INFLUENZA EMERGENCY VACCINATOR PROTOCOL

1. Scope
    a. This protocol provides guidelines under which specific paramedics may administer vaccine for H1N1 influenza per the attached standing order in a declared emergency.
2. Activation
    a. Activation of this protocol is made by the Grays Harbor County Public Health Officer following a declaration of emergency by the Grays Harbor Board of County Commissioners.
3. Concept of Operations
    a. Vaccines are administered under the direction of the Public Health Officer with the approval of the County Medical Program Director or his delegate if County MPD is unavailable.
    b. Vaccination activities will be confined to the administration of vaccine to specific groups at points of distribution specifically authorized by the Public Health Office or at points of distribution sponsored and supervised by Public Health.

c. All EMS personnel authorized to vaccinate under this protocol will be briefed by public health personnel on the following issues:
    i. Command and control
    ii. Vaccine administration
    iii. Documentation and reporting

4. Worker Safety/Infection Control
    a. Will be conducted according to standard EMS procedures.

NOTES:

a. If intubation is required, utilize the RSI procedure as outlined in PROC-260.

REFERENCE:

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. MED-010: Acetaminophen
4. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *PCP-530*	Effective: *June, 2009*	Revised:

WITHDRAWAL SYNDROMES

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)		
***Chest pain**	***Respiratory distress**	***Increased Heart Rate**
***Hypertension**	***Tremors**	***Seizures**
***Hyperthermia**	***Nausea/Vomiting**	***Diarrhea**
***Paranoia**	***Agitation**	***Combativeness**
***Dizziness**		

REQUIRED PARAMEDIC EVALUATION

1. Combative or severe agitation
2. Seizures
3. ↓ LOC
4. ↓ in Respiratory status
5. Unconscious/Unresponsive
6. Signs and symptoms of shock

BLS TREATMENT

1. Scene Safety
2. Calm, low stimulus environment.
3. ABC, History, PE, VS, SpO_2.
4. Administer **O_2**/Assist respirations PRN.
5. Monitor temperature as feasible, cool as appropriate.
    a. If suspected hyperthermia, allow for adequate heat dissipation.
6. Restrain patient PRN.
7. Treat other associated signs/symptoms per protocol.

IV TECHNICIAN TREATMENT

1. Perform treatment as above.
2. V access with blood draw
    a. Fluid bolus PRN Ensure to monitor patient's vital signs and lung sound before and after administration of fluid bolus.

ALS TREATMENT

1. Perform treatment as above.
2. Administer **O_2** via appropriate device.
3. EKG.
4. Intubate PRN/**$ETCO_2$** device. [a] [b] [c]

5. For nausea/vomiting, give:
    a. **Zofran**, OR
    b. **Compazine**:.
6. For severe agitation/sedation/combative patients give:
    a. **Valium**:
    b. **Versed:**
        i. .
7. For seizures give:
    a. **Valium:** OR
    b. **Versed:**
8. Treat cardiac arrhythmias per current ACLS guidelines.

NOTES:

a. If intubation is required, utilize the **RSI** procedure as outlined in PROC-260.
b. If utilizing **Propofol** for sedation, may have to double initial dose
c. For severely combative patients, intubate

REFERENCE

1. PROC-050: Capnography
2. PROC-260: Rapid Sequence Intubation
3. PROC-270: Restraint Guidelines for Combative/Violent Patients
4. MED-110; Diazepam (Valium)
5. MED-280: Midazolam (Versed)
6. MED-330: Oxygen
7. MED-350: Prochlorperazine (Compazine)
8. MED-360: Propofol
9. MED-450: Zofran

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GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOL MANUAL

-- Patient Care Procedures --

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-010*	Effective: *June, 2009*	Revised:

12-LEADS

PARAMEDIC

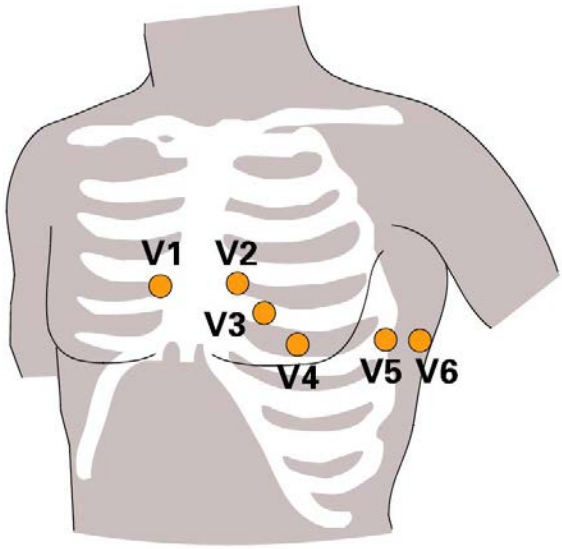
INDICATIONS:

1. Chest pain or discomfort
2. As a tool to assist in the assessment of patients without chest pain or discomfort who may be experiencing an AMI.

CONTRAINDICATIONS:

1. Locations were modesty cannot be preserved (relative).
2. 12-Leads or Cardiac Monitor placement are not to be performed as a diagnostic tools by EMS to determine the need for patient transport. 12-Leads should only be performed once it has been determined that the patient is going to be transported to the hospital.

PROCEDURE:



1. Identify the Angle of Luis (just inferior to the sternal notch).
2. Identify the 2nd rib and 2nd intercostal space from the Angle of Luis (lateral and inferior).
3. Walk down the intercostal spaces until you have identified the 4th intercostal space.
4. Place V1 approximately 3cm to the right (patient's right) of the midline of the sternum in the 4th intercostal space.
5. Place V2 approximately 3cm to the left (patient's left) of the midline of the sternum in the 4th intercostal space.
6. Place V4 in the 5th intercostal space at the mid-clavicular line.
7. Place V3 halfway between V2 and V4.
8. Place V6 at the mid-axillary line horizontal from V4.
9. Place V5 halfway between V4 and V6.
10. Place the limb leads on the patient's wrists and ankle.
11. Have the patient remain still while 12-lead is acquired

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-015*	Effective: *May 2014*	Revised: *May 2015*

ACTIVE SHOOTER INCIDENTS/ HOSTILE INCIDENTS

EMR | EMT | EMT-IV | PARAMEDIC

***Agencies shall not implement these procedures unless they have implemented a coordinated ASI/Hostile response plan with their partner law enforcement agency.**

DEFINITIONS:

Cold Zone: Areas that are relatively safe from danger and are secured.
Warm Zone: Areas that have been quickly cleared by law enforcement, but that are not 100% secure. This area is where victims will be contacted by Rescue Teams.
Hot Zone: Areas that have not been cleared by Law Enforcement.
MARCH: Patient injury identification and treatment tool. MARCH may also refer to a rapid trauma treatment bag, ie: MARCH bag.
Rescue Team: A team comprised of Fire/EMS personnel (minimum 2) and Law Enforcement personnel (2 to 4) formed to enter the Warm Zone and rapidly triage, treat immediate life threats, and remove patients to the Casualty Collection Point.
Casualty Collection Point (CCP): Area within the Warm Zone protected by Law Enforcement that serves as a collection point for victims extracted by Rescue Teams and/or the walking wounded.

INTRODUCTION:

This Guideline is to provide a frame work for the treatment of patients within the warm zone of a Hostile Incident. The goal is to make contact with patients as quickly as possible and treat massive bleeding or other immediate life threats, and get them moved to the CCP. Treatment of patients within the Casualty Collection Point/treatment area may become more advanced, but should not delay transport of any critically injured patients. Should the incident require the formal establishment of a cold zone treatment area, refer to the MPI/MCI protocol.

PROCEDURE:

Rescue Team(s) will make entry into the warm zone, providing scene relevant information back to command (see Communications below), while providing immediate MARCH based treatments and relocating patients to the CCP.

TREATMENT:

In non-Hostile Incidents, some findings and patient injuries may typically require a BLS level provider to call for immediate ALS assistance. In Hostile Incidents, BLS level providers should continue treatment and movement of a patient regardless of injury severity. Advanced interventions should be reserved for the CCP, and should not delay movement or transport. **Do not attempt procedures or treatments beyond your scope of practice.**

Suggested approach to rapid patient identification and treatment:

1. Rapidly triage patients and identify who is viable, who is deceased, who requires immediate intervention, and who can have their treatment delayed. Give consideration to treating the immediate life threats of multiple patients before beginning removal of patients/victims.
2. If an armed patient is found unconscious or with ALOC, have Law Enforcement personnel disarm them and secure their weapon(s). If they regain consciousness they may continue to fight, unable to identify Rescue Teams as a non-threat.
3. **MARCH** assessment and applicable treatments
    1. **M**assive hemorrhage
        1. Apply tourniquets or direct pressure bandages
        2. For abdominal wounds flex legs (knees to chest) to relieve tension on the abdomen.
    2. **A**irway compromise
        1. Reposition airway
        2. Place NPA
    3. **R**espiratory compromise
        1. Occlusive chest dressing
        2. Needle thoracentesis
    4. **C**irculatory compromise
        1. Reposition patient to shock position or recovery position.
    5. **H**ypothermia
        1. Reposition patient to recovery position.
        2. Cover patient if blankets or such covering is available.
4. Consider IV/IO and advanced airway procedures in the CCP. Do not delay transport once immediate life threats are treated.
5. If transport from the CCP becomes delayed because the primary receiving facility becomes over whelmed, consider establishing a treatment area per the MPI/MCI procedure.

COMMUNICATIONS:

Communications in a Hostile Incident should be limited. Communication to/from Rescue Teams should be limited to relevant information, as listed below, to allow Teams to focus on patient triage and treatment, and to allow command to focus on organizing teams, incoming units, and transport needs.

1. Additional threats if Law Enforcement element of Rescue Team is unable to communicate (e.g. IED, Traps, Additional Hostile persons)
2. Number of patients.
3. Location of the CCP
4. Personnel assigned to the CCP will communicate patient severity and transport priority to command, or a Treatment/Transport officer if established. Consider assigning an additional radio channel or utilizing phones.

REFERENCE:

6. PCP-270: Hypothermia
7. PCP-450: Trauma; Burns
8. PCP-480: Trauma; Fractures & Dislocations
9. PCP-500: Trauma; Multi-system/General
10. PCP-510: Trauma; Pneumothorax/Tension
11. PROC-170: Intraosseous Infusion; Needle Site & Jamshidi
12. PROC-210: Multi-patient, Mass Casualty & Disaster Incidents
13. PROC-220: Needle Thoracentesis
14. PROC-290: Surgical Cricothyrotomy
15. REF-060: START Triage
16. REF-080: Trauma Triage

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-020*	Effective: *January, 1998*	Revised: *June, 2009*

AUTOMATED EXTERNAL DEFIBRILLATOR

EMR | EMT | EMT-IV | PARAMEDIC

INDICATIONS:

1. Cardiac Arrest

CONTRAINDICATIONS:

1. "Obviously Dead" are victims who, in addition to absence of respiration and cardiac activity, have suffered one or more of the following:
    a. Decapitation
    b. Evisceration of the heart or brain
    c. Incineration
    d. Rigor Mortis
    e. Decomposition
2. Do Not Resuscitate orders and no pulse or respirations:
    a. DOA victims will be reported to the appropriate authorities based on local procedures.
    b. DO NOT leave body unattended.
    c. Consider Critical Incident Stress Debriefing (CISD) if needed.
    a. .
3. Patient is conscious.
4. Patient has spontaneous respirations and pulse.

PRECAUTIONS:

1. Ensure that the patient's skin is dry.
2. Remove any medication patches or jewelry than may interfere with the placement of AED patches.
3. Do not put patches near implanted pacers/defibrillators.

PROCEDURE:

1. Verify that the patient is in cardiac arrest.
2. Initiate CPR
    a. If arrest was unwitnessed by pre-hospital provider, perform 2 minutes of CPR prior to initiating the use of an AED.
3. Turn on the AED and follow the verbal prompts.

a. Apply AED pads to the patient's bare chest.
b. Plug in pads connector into the AED.

4. Clear the patient to allow the AED to analyze the rhythm.
    a. If shock is advised:
        i. AED will automatically charge.
        ii. Ensure that the patient is clear.
        iii. Deliver single shock
        iv. After shock is delivered, immediately resume CPR for 2 minutes.
    b. If no shock is indicated:
        i. Immediately resume CPR for 2 minutes.
5. After 2 minutes of CPR, analyze the patient's rhythm.
    a. The AED should prompt you to do such.
    b. If shock is advised:
        i. AED will automatically charge.
        ii. Ensure that the patient is clear.
        iii. Deliver single shock
        iv. After shock is delivered, immediately resume CPR for 2 minutes.
    c. If no shock is indicated, check the patient's pulse:
        i. If no pulse: immediately resume CPR for 2 minutes and analyze the patient's rhythm every 2 minutes, following the prompts of the AED.
        ii. If patient has a pulse: provide needed care, ensuring that the patient does not go back into cardiac arrest.
6. Continue the above cycle until ALS care is initiated.

SPECIAL CONSIDERATIONS:

1. Defibrillation is generally ineffective in patient's suffering from traumatic cardiac arrest. If major bleeding or trauma is obvious, initiate BLS support. If major bleeding or trauma in not obvious, initiate the AED process.
2. If EMS providers arrive to find a patient attached to a public access defibrillator, that device should be removed and replaced with the EMS provider's and the AED procedure initiated. This should be accomplished with as little interruption in CPR as possible.
3. If the patient has an implanted defibrillator, wait until it stops delivering shocks to initiate the AED process.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-030*	Effective: *October, 2004*	Revised: *June, 2009*

BLOOD DRAWS FOR LAW ENFORCEMENT

EMT-IV | PARAMEDIC

PURPOSE:

1. To allow EMS providers a procedure for obtaining a blood sample at the request of law enforcement.

PROCEDURE:

1. Law Enforcement may request that EMS providers draw blood for blood alcohol levels at the scene of an accident, under the following circumstances:
    a. The patient is under the care of GHEMS personnel; and
    b. The blood draw does not interfere with patient care being provided; and
    c. Law Enforcement provides EMS personnel with the proper blood tubes for the draw.
2. When performing a blood draw for law enforcement, utilize iodine to clean the skin. Do not use alcohol wipes as this may contaminate the skin and blood sample.
3. EMS personnel shall document blood draws on a GHEMS Medical Incident Report.
4. Under no other circumstances will EMS provide this service – specifically EMS will…
    a. not be called to an accident scene for the sole purpose of performing a blood alcohol draw.
    b. not respond to a jail, police station or other holding facility to perform a blood draw.
    c. not draw blood at their station.
5. It is anticipated that Law Enforcement will obtain blood draws through other resources available to them if the criteria listed in this protocol is not met.

Approved:
Signature on file with original protocol at GHEMS.
Daniel Canfield, MPD
Grays Harbor/North Pacific Counties

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-040*	Effective: *June, 2009*	Revised:

BLOOD TRANSFUSION GUIDELINES

PARAMEDIC

PURPOSE

1. To administer blood products during transport between facilities.

PROCEDURE:

1. Prior to taking over patient care or starting a new blood product, make sure that the blood is the patient's. Double check that the patient's wristband coincides with the compatibility tag on the blood by:
   a. Checking the patient's full name.
   b. Ensuring that the identification numbers match.
2. Check blood for:
   a. Expiration
   b. Appearance: color, clots, or presence of a lot of fine bubbles.
3. Setup will vary depending on the component that is to be transfused. Blood must be transfused through a sterile IV set which has a filter to prevent the introduction of large aggregations into the system. The maximum time limit for use of a blood filter is 4 hours.
   a. DO NOT USE ANY OTHER IV FLUID THAN NORMAL SALINE (0.9%)
   b. May also give FFP with blood.
4. Connection procedure is as follows:
   a. Insert the Y tubing into the blood container.
   b. Close the clamp to the NS and open the clamp to the blood bag.
   c. Squeeze the drip chamber several times until the blood level is above the filter.
   d. Check vital signs, flow rates, transfusion reaction symptoms and document appropriately.
5. Record patient's initial vitals according to Blood card. Upon completion, record final set of vitals. For uncomplicated transfusions, there is no requirement to return the empty bag.
6. If the patient has a history of CHF, give **Furosemide** IV between units.

PATIENT MONITORING:

1. Question the patient for any symptoms prior to transfusion or ask the nurse if the patient had any symptoms prior to administration.

2. Reactions to look for:
    - Anxiety
    - Restlessness
    - Redness or unusual warmth near the transfusion site
    - Flushing
    - Chest pain
    - Tachypnea
    - Urticaria
    - Tachycardia
    - Fever
    - Chills
    - Cough
    - N/V
    - Diarrhea
    - Shock
    - Lumbar pain
    - Decreased urine output
    - Hypotension
    - Abnormal bleeding.
3. Reaction most likely to occur in the first 15 minutes.
4. If a reaction occurs, STOP transfusion, but keep IV in and open while contacting Medical Control. Note the amount of blood received.

REFERENCE

1. MED-190: Furosemide (Lasix)

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-050*	Effective: *August, 2004*	Revised:

CAPNOGRAPHY

EMT | EMT-IV | PARAMEDIC

INDICATIONS:

1. All intubated/Combi-tube patients.
2. Any patient being treated for carbon monoxide poisoning.

CONTRAINDICATIONS:

1. None is these settings.

PROCEDURE:

1. Attach monitoring device to patient.
2. Document results

NOTES:

a. The absence of returned end tidal CO_2 in a patient that is in cardiac arrest is not by itself an indication for extubation. The paramedic should further investigate and confirm the placement of the ETT.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-060*	Effective: *August, 2004*	Revised: *January, 2012*

CARDIOVERSION

PARAMEDIC

OVERVIEW:

Synchronized electrical cardioversion causes a rapid and complete depolarization of cardiac tissue. Under many circumstances synchronized electrical cardioversion is the quickest and most effective method of correcting life threatening dysrhythmias.

INDICATIONS:

1. Unstable tachyarrhymias – wide or narrow complex
2. patient are considered unstable if they display one or more of the following:
    a. Altered LOC
    b. Chest Pain
    c. Syncope
    d. Dyspnea
    e. Hypotension
    f. Pulmonary Edema
    g. CHF
    h. AMI

CONTRAINDICATIONS:

1. Supraventricular tachycardia induced by non-cardiac conditions (digitalis toxicity, hypovolemia, hyperthermia, hypoxia, etc.)

PROCEDURE:

1. If time permits, sedate the patient:
    a. **Propofol:**
        i. May use the following medications if patient has Propofol or peanut allergy:
            1. **Versed**: with **Fentanyl**
            2. **Diazepam**: with **Fentanyl** minutes prior to Cardioversion.
2. Place paddles/pads on patient.
3. Synchronize. [(a)]
4. Select initial energy level:
    a. PSVT/A-Flutter:

i. Monophasic: 100j
ii. Biphasic: 50j

b. A-Fib:
i. Monophasic 200j
ii. Biphasic: 120j

c. V-Tach:
i. Monophasic: 200j
ii. Biphasic: 100j

5. Confirm Synchronize.
6. Clear patient.
7. Deliver shock – hold button until shock is delivered.
   a. If refractory increase to…
      i. PSVT/A-Flutter:
         1. Monophasic: 200j, 300j, 360j progressively
         2. Biphasic: 100j, 150j, 200j, progressively
      ii. A-Fib:
         1. Monophasic: 300j, 360j progressively
         2. Biphasic: 150j, 200j progressively
      iii. V-Tach:
         1. Monophasic:, 300j, 360j progressively
         2. Biphasic:, 150j, 200j progressively
   b. Re-Synchronize between each shock.

NOTES:

a. If energy is delivered without synchronization, ventricular fibrillation could result.

	Biphasic				**Monophasic**			
PSVT/ A-Flutter	50j	100j	150j	200j	100j	200j	300j	360j
A-Fib	120j	150j	200j			200j	300j	360j
V-Tach	100j	150j	200j		200j	300j	360j	

REFERENCE

1. MED-110: Diazepam (Valium)
2. MED-180: Fentanyl
3. MED-280: Midazolam (Versed)
4. MED-360: Propofol

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-070*	Effective: *August, 2004*	Revised:

CENTRAL INTRAVENOUS CANNULATION

PARAMEDIC

INDICATIONS:

1. Venous access when peripheral access is not available in the setting of:
    a. Severe hypoperfusion
    b. Cardiac Arrest

CONTRAINDICATIONS:

1. None is these settings.

SITES:

1. Right Subclavian
2. IJ

PROCEDURE:

1. Cannulate the vein.
2. Remove the needle from the catheter.
3. Draw blood sample if appropriate.
4. Attach the IV tubing to the catheter and flush to ensure the catheter is patent.
5. Secure the tubing with tape and apply an occlusive dressing over the site.
6. Discard sharps.
7. Document

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-078*	Effective: *October, 2011*	Revised: *February, 2016*

CONTINUOUS CPR

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

Component	*Adult* >8 years old	*Child* 1 – 8 years old	*Infant* 0 – 1 years
Recognition	Unresponsive - all ages. No breathing or no normal breathing (i.e. only gasping)-all ages. No pulse palpated within 10 seconds-all ages.		
CPR Sequence	C – A – B (circulation – airway - breathing).		
Compression Rate	Minimum 100cpm/all ages. Compressor counts, calls out at 180 and continues to count out loud to 200. Holds CPR, check pulse/ rhythm/ defibrillate if indicated - Rotate compressor at this time.		
Compression Depth	*Adult* At least 2 inches	*Child* At least 1/3 AP diameter About 2 inches	*Infant* At least 1/3 AP diameter About 1 ½ inches
Chest Wall Recoil	Allow complete recoil between compressions.		
Compression Interruptions	Attempt to limit interruptions to <10 seconds.		
Airway	Head tilt chin lift/jaw thrust maneuver when trauma suspected. No cricoid pressure when ventilating recommended. Place airway adjuncts (OPA/NPA) as soon as possible Prepare for suctioning. Secure airway (Combi-tube/ETT) when time permits. Recommended Eeschmann Catheter (ET introducer) in place of stylet.		
Compression to Ventilation Ratio	Continuous compressions with 1 breathe every 6- 8 seconds or every 10th compression with or without secured airway given over 1-2 seconds/compressions.		
Defibrillation	Attach and use AED/manual defibrillator as soon as available. Minimize interruptions in chest compressions before and after shock. When using a manual defibrillator charge at the 190th compression, if no shock indicated discharge defibrillator. Continue compressions through charging phase if defibrillator allows, resume CPR beginning with chest compressions immediately after each shock.		
Note	All advances procedures i.e. Advanced Airways, IVs'/IOs' will be attempted during compression phases in order to limit interruptions. If using "recording" defibrillator turn device on prior to starting CPR if possible. Follow current ACLS guidelines for medication administration.		

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-080*	Effective: *August, 2008*	Revised: *August 2016*

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) BLS AND ALS PROTOCOL

EMT | **EMT-IV** | **PARAMEDIC**

SIGNIFICANT FINDINGS (* DENOTES AUTOMATIC ALS)

*** Difficulty breathing * Diaphoresis * Hypertension**
*** Tripod position * Pink, frothy sputum * Hypotension**
*** Use of accessory muscles * Chest Pain * Rales/Wheezing**
*** ALOC * Cyanosis * Tachypnea**

INDICATIONS:

1. Any patient who is in respiratory distress with signs and symptoms consistent with:
    a. Congestive Heart Failure (CHF),
    b. Pulmonary Edema,
    c. COPD (emphysema, do not use in asthma patients),
    d. Near Drowning
2. Other measures to improve oxygenation and decrease the work of breathing have failed (i.e., 100% **O_2** via NRM).
3. And who is:
    a. Awake and able to follow commands
    b. Is >12 years old and able to fit CPAP mask
    c. Has the ability to maintain an open airway
    d. Exhibits two or more of the following:
        i. RR > 25
        ii. SPO_2 < 94% at any time
        iii. Use of accessory muscles of breathing

CONTRAINDICATIONS:

1. Significant Facial Hair
2. Patient is apneic
3. Pneumothorax is suspected
4. Patient is trauma patient with injury to the chest
5. Patient has a tracheostomy
6. Patient is actively vomiting or has upper GI bleeding
7. Patient has intolerance for CPAP mask or procedure. ALS personnel may use **Versed** to facilitate patient compliance with procedure.

8. Patient has asthma.

PROCEDURE:

1. EXPLAIN THE PROCEDURE TO THE PATIENT
2. Place patient on continuous pulse oximetry
3. Position head of patient at 45 degrees or position of comfort
4. With device operating, place mask on patient and secure with straps
5. Use CPAP valve of 10 cm H_2O for most patients (for Pulmonary Edema).
    a. ALS: In extreme cases 15 cm H_2O can be utilized.
6. ALS: For variable flow generators Use an initial setting of 30% FiO_2 at a flow rate of 140 liters/min., increase FiO_2 PRN.
7. Check for air leaks around face/mask interface. Readjust as needed
8. Coach patient to breathe with device
9. Request ALS intercept. ALS shall consider appropriate drug therapy as adjunct
    a. May use small amounts of **Versed** if the patient does not tolerate mask.
    b. Use **Morphine** to reduce preload in CHF patients.
10. Check patient vital every 5 min.
11. If respiratory status deteriorates, remove device and assist ventilations w/ BVM ALS personnel should consider intubation (follow RSI protocol).

SPECIAL CONSIDERATIONS:

1. Do not remove CPAP until hospital therapy is ready
2. Use extreme caution in patients with end-stage COPD: ALS - consider 5 cm H_2O as initial pressure.
3. CPAP may be used with patients who have POLST form or DNR orders
4. Do not use CPAP for asthma patients.
5. BLS agencies are equipped with fixed flow CPAP generators; ALS agencies are equipped with variable flow CPAP generators. BLS personnel in ALS agencies may use the variable flow generator only on the initial settings of 30% FiO_2 at a flow rate of 140 liters/min.

NOTES:

A. WhisperFlow Fixed delivers 30% FiO_2 @ 140 LPM
B. WhisperFlow Variable delivers 30% to 100% FiO_2 @ 0 -140 LPM
C. Average D cylinder minutes of use (2200 PSI @ 10cmH_2O)
    i. WhisperFlow Fixed: 33 min. 30% FiO_2
    ii. WhisperFlow Variable: 4 – 33 Min. 30 – 100% FiO_2

REFERENCE

1. MED-280: Midazolam (Versed)
2. MED-290: Morphine Sulfate
3. MED-330: Oxygen

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-090*	Effective: *June, 2009*	Revised:

CRIME SCENE PRESERVATION

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

1. Forensic guidelines emphasizing crime scene preservation are important. However, the most important role of EMS providers is to ensure the preservation of life.
   a. EMS is in charge of the patient
   b. Law Enforcement is in charge of the crime scene.
2. While an emotional cause of death, such as apparent SIDS, may cause a scene to be difficult, it is not an acceptable reason to move or transport a deceased person. If the patient is obviously deceased, do not disturb or move the body unless there is a clear potential the body will be lost or further damaged. Document why and what actions were taken.
3. Communicate with Law Enforcement, ensure the scene is safe.
4. Observe the area and try to make mental notes of the scene surroundings.
5. Limit access and egress to a single path/route. This may be identified by law enforcement; or if EMS arrives first, notify law enforcement of your route.
6. Limit the number of personnel entering a potential crime scene to only those essential to safely and efficiently care for the patient. Provide law enforcement with a list of responders' names, and when they arrived/departed.
7. EMS providers should not move anything; they should leave items alone unless absolutely necessary to perform lifesaving patient care.
8. Do not cut through bullet/stab holes on patient's clothing or binding knots, etc. as this may destroy critical evidence.
9. Do not use phones, sinks, toilets, garbage containers, or anything at a crime scene. Only utilize equipment that was brought to the scene and only remove equipment brought in if absolutely necessary.
10. Do not take anything from a crime scene that can be left. Give clothes, blankets, and sheets to law enforcement. If they want them packaged, put them in a paper bag and label it.
11. Document everything you observed (lighting, weather, temperature, odors, bystanders' behavior, position of patient), moved, and performed as patient care. Include statements made by the patient. Be as specific and exact as you can.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-100*	Effective: *August, 2004*	Revised:

ET INDUCER: I.E. ESCHMANN CATHETER

PARAMEDIC

INDICATIONS:

1. Any situation involving poor vocal cord visualization
2. Anatomic, traumatic, or pathologic conditions limiting laryngeal access
3. Tracheal deviation
4. Cervical spine immobilization

PROCEDURE:

1. Lubricate bougie with water-soluble lubricant.
2. With the tip directed anteriorly, guide bougie toward the epiglottis.
3. Advance the bougie posterior to the epiglottis and into the glottic opening.
5. Cricoid pressure may facilitate correct placement
6. The operator may be able to feel the bougie "click" or "bump" over the anterior trachea rings.
7. Use the laryngoscope to elevate the pharyngeal soft tissue
8. Advance to the carina (resistance to passage) to verify placement. With further advancement the bougie should rotate as you enter into the bronchus, further confirming placement. Failure to meet resistance indicates esophageal placement.
9. Once placement is confirmed, withdraw and align the black "lip-line marker" with the lips.
10. Pass the endotracheal tube over the bougie.
11. After advancement, remove bougie and confirm ET tube placement. Secure the ET tube.
12. Attach **$ETCO_2$** device.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-110*	Effective: *September, 2004*	Revised: *March, 2011*

EPINEPHRINE ADMINISTRATION FOR EMT

EMT **EMT-IV**

INDICATIONS:

1. Patient has had contact with a substance that has caused a reaction in the past and is currently experiencing respiratory distress, difficulty swallowing, or signs and symptoms of shock.
2. Patient has evidence of a prescription of epinephrine.

CONTRAINDICATIONS:

1. None in this setting.

PROCEDURE:

1. Request an ALS upgrade (give incoming report)
2. Provide O_2 and /or ventilatory assistance as needed.
3. Administer the epinephrine:
   a. confirm right medication: **Epinephrine;**
   b. prepare syringe and hypodermic needle;
   c. cleanse vial rubber top;
   d. insert needle into vial and inject air from syringe into vial;
   e. withdraw appropriate volume of medication;
      i. Adults:
      ii. Pediatric:
   f. Select IM injection site:
      i. Deltoid – upper arm
      ii. Dorsal Gluteal – butt muscle
      iii. Vastus Laterolis – Anterior surface of upper leg
      iv. Rectus Femoris – Lateral surface of upper leg
4. align needle/syringe at 90^{o} angle at injection site and insert needle;
5. retract plumber of syringe to assure you haven't entered a blood vessel;
6. slowly and smoothly depress plunger to inject medication;
7. withdraw syringe and dispose of in a sharps container;
8. Record time of injection
9. Reassess vital signs and continue to treat for shock.

REFERENCE

1. MED-170: Epinephrine for EMT

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-120*	Effective: *August, 2004*	Revised:

ESOPHAGEAL TRACHEAL COMBI-TUBE

EMT | **EMT-IV** | **PARAMEDIC**

INDICATIONS:

1. Cardiopulmonary Arrest
2. Respiratory Arrest
3. No gag reflex

CONTRAINDICATIONS:

1. An intact gag reflex
2. Airway obstruction
3. Patients < 5ft tall
4. Cases of suspected caustic ingestion
5. Conscious/breathing patients
6. Facial Trauma
7. Esophageal disorder

PROCEDURE:

1. Maintain BSI
2. Open airway, clear of any foreign objects and pre-oxygenate with 100% O_2.
3. Place head in hyper-extended position if no c-spine injury suspected. If potential for injury, place patients head in neutral position. Lubricate the distal end of the Combi-tube with water soluble lubricant prior to insertion.
4. Attach the blue tipped syringe (with 100 cc's of air drawn up) to #1 and the white tipped syringe (with 15 cc's air drawn up) to #2.
5. Open the airway by grasping the lower jaw between the index finger and thumb. Lift anteriorly.
6. Insert the Combi-tube midline of the mouth along the base of the tongue into the airway. Advance gently until the teeth (or gums) are aligned between the two black rings on the tube. If resistance is felt, do not force.
7. Inflate the blue cuff and white cuff with allotted amount of air respectively.
8. Attach a BVM with supplemental O_2 to Tube #1 and begin ventilations.
9. If chest rises and falls and lung sounds are heard, continue ventilations.
10. If lung sounds are absent and no rise and fall, ventilate through Tube #2. If chest now rises and falls and lung sounds are heard, continue to ventilate through Tube #2. Listen for gurgling sounds over the stomach to confirm placement.

11. If unsuccessful after the second attempt to insert the Combi-tube, discontinue the procedure and continue ventilations using an alternative method.
12. Continue ventilations and reassess patient. Monitor end-tidal CO_2.
13. If there are no ventilations with the Combi-tube or the patient becomes responsive, release the air in the cuffs of the tubes and carefully remove the Combi-tube with suction available. To do so:
    a. Roll patient onto left side and prepare for possible vomiting
    b. Deflate Tube #1 pilot balloon
    c. Deflate Tube #2 pilot balloon
    d. Gently pull out tube and be ready for vomiting

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-125*	Effective: *January 2015*	Revised:

GLUCOMETRY

EMT | EMT-IV | PARAMEDIC

INDICATIONS:

1. Unconscious/Unresponsive
2. Altered Level of Consciousness
3. Signs and symptoms of Stroke
4. Known or suspected diabetic patient

CONTRAINDICATIONS:

1. Other patient care priorities (ie Airway, Breathing, Circulation)
2. Children less than one year of age

PROCEDURE:

1. Turn on and check glucometer for readiness and insert test strip. [(a)]
2. Choose desired finger and clean site with alcohol swab.
3. Use lancet to puncture skin, and then place used lancet into sharps container.
4. Apply gentle compression to fingertip, and then apply droplet of blood to test strip, allowing blood to wick up.
5. Place gauze on puncture site and apply pressure to stop bleeding.
6. Record reading. [(b) (c)]

NOTES:

a. Perform the testing procedure as outlined in the instructions for your specific device.
b. If a patient is treated with oral glucose, a second glucose level check must be performed.
c. Patients who take insulin may be safely left at home if they respond completely (ie GCS 4,5,6 and are able to eat and drink normally), have a repeat glucose of at least 60 mg/dl and if a responsible person can remain in attendance.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-130*	Effective: *August, 2004*	Revised:

HAZARDOUS MATERIALS RESPONSE

EMR | EMT | EMT-IV | PARAMEDIC

REFER TO DOT EMERGENCY RESPONSE GUIDEBOOK FOR INITIAL PROTECTIVE ACTIONS

PART I. EMERGENCY SCENE MANAGEMENT

Call for assistance early in the event: Fire department, WA State Patrol, Hazmat Team, Dept of Ecology, Law enforcement.

Scene Safety:

- Isolate the hazard and deny entry
- Establish a safe zone that is uphill, upwind and avoid low-lying areas
- Evacuation distances vary depending on material. Distances listed below are guidelines. Consult reference material for specific product as soon as possible
- Use DOT Guidebook and Placards on shipping containers to identify product(s) involved

- Evacuate for ½ to 1 mile for all Class A, B, and C Explosives
- Evacuate for 1 mile if a tank or tank car of gaseous material is involved in fire
- Evacuate for ½ mile if tank or tank car of flammable material is involved with fire

Do not assume the scene is safe because of no detectable odor or visible gas

Do not attempt rescue of involved individuals unless you are equipped with proper personal protective equipment. Fire *fighter turnouts are considered Class* D protective equipment and are not acceptable for chemical protection.

PART II. PATIENT DECONTAMINATION PROCEDURE

CONTAMINATED PATIENTS SHOULD NEVER BE PLACED IN AN AMBULANCE AND NEVER TAKEN INTO A HOSPITAL PRIOR TO DECONTAMINATION PROCEDURES

Emergency personnel must take steps to protect themselves from contamination by the patient. This includes contamination from solids, liquids and gasses. Emergency personnel MUST utilize proper PPE when decontaminating victims.

- Identify the product, route of exposure and life threat
- Establish a controlled access system with entry and exit points of the victims to the Decon corridor
- A minimum of a two-stage decontamination process should be utilized for grossly contaminated subjects (liquids, solids, toxic gasses).

First Stage:
Patient's clothing removed as needed to prevent further damage from chemical and to facilitate removal of product. Protect patient's privacy at all times.
Remove jewelry, shoes and clothing and place in biohazard bag. Keep patient's property secured for later decontamination.

- Solid or particulate substances should be brushed completely off patient's skin prior to water wash
- Heavy liquid contaminates should be blotted off skin prior to water wash

Second Stage:

- Wash areas of contamination with mild soap and water solution, rinse with copious amounts of water

In a patient with a life threatening medical condition the ABC's and Primary Survey are conducted simultaneously with Decontamination procedures. The head and upper torso should be decontaminated first so that airway management can be initiated early.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-140*	Effective: *August, 2004*	Revised: *February, 2016*

HELICOPTER TRANSPORT

EMR | EMT | EMT-IV | PARAMEDIC

AIR AMBULANCE ACTIVATION:

Anytime there is a possibility of an air ambulance being activated in the field, any field personnel may call an air ambulance to request 'standby' when it appears necessary and when prehospital response is not readily available. When the use of an air ambulance is believed by the field personnel to be the most expeditious and efficacious mode of transport, prior to 'activation' Responders must consult with the on duty Emergency Department (ER) Physician at Grays Harbor Community Hospital (MEDICAL CONTROL).

The decision to activate an air ambulance may only be made from the field in conjunction and with the direction of the on duty Emergency Department (ER) Physician at Grays Harbor Community Hospital or the Medical Program Director. Medical Control will consider the following in confirming patient destination: location, Estimated Time of Arrival (ETA) of helicopter, availability of ground transport, proximity of other designated trauma receiving centers, their current capabilities and availability.

Personnel will call the closest, most appropriate air ambulance. **Available air ambulance providers are Life Flight and Airlift Northwest.**

Requesting an air ambulance

1. Notify communication center of need for helicopter and planned patient destination
2. Patient Considerations:
    - If hazardous materials involved
    - Patient weight and girth;
        i. Airlift - girth to a maximum of 26"
        ii. Life Flight – weight less than 500 lbs.
3. Select LZ location at or near incident site
    - Designate a tail rotor guard
    - 100' X 100'marked with cones (day) or strobe lights (night) if available
    - Slope
        i. Airlift: less than 10 degree slope
        ii. Life Flight: less than 6 degree slope
    - Provide GPS coordinates and/or cross streets

- Clear of obstructions
- Consider use of roadway, school, parking lot (water down loose dirt if possible)

4. Select ground contact
5. Coordinate frequency for LZ command via E-911.

General Responsibilities

1. Make sure LZ is clear of debris or unsecured materials and brush is no taller than knee high
2. Make note of overhead wires, light standards, radio towers, fences, or obstructions.
3. Fire department personnel maintain a 200' perimeter for bystanders, and personnel protective equipment should be used.
4. Do not use white strobe lights. Use red lights to assist in noting location. All white lights in the area need to be turned off during landing and departure. Do not spot light overhead hazards. Lights are to be turned off and on at the direction of the pilot.
5. Make sure to brief the pilot prior to arrival, noting locations of hazards.
6. Remain in two-way radio contact throughout landing.
7. Do not approach the helicopter until the rotor blades have stopped, or until directed to do so by the flight crew.
8. Approach the helicopter only from the 3 o'clock or 9 o'clock positions, once directed by the flight crew.
9. **Do not walk around the tail.** Have a designated tail rotor guard.
10. Maintain the LZ lighting at all times. At departure, clear all ground personnel away from the helicopter.
11. No one may approach the helicopter after the engines start and the blades are turning unless directed to do so by the flight crew.
12. Re-establish two-way radio communications with pilot and confirm the LZ is secure.
13. Notify the pilot if an unsafe situation develops.

UNITED STATES COAST GUARD ACTIVATION:

The United States Coast Guard, Group Astoria has helicopter assets available for Rescue and Medical Evacuation. In the event of an on scene Medical Evacuation, an air ambulance will be the first choice for air medical transport. In the event that an air ambulance is unavailable the USCG can be called.

Requesting USCG

1. Upon notification that an air ambulance is unavailable, notify the communications center to contact the USCG for the need for helicopter transport and planned patient destination
2. Provide patient information as outlined for requests involving an air ambulance.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-150*	Effective: *June, 2009*	Revised:

HELMET REMOVAL

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

This procedure is for those patients wearing a helmet who require airway preservation, stabilization of head to long board, in-line stabilization for transfer, etc.

CONTRAINDICATIONS:

1. Do not remove football helmets unless airway is compromised. If you must remove a football helmet, ensure that the shoulder pads are also removed.

PROCEDURE:

1. This procedure requires two (2) rescuers.
2. The first rescuer (1) immobilizes the patient's head by holding the helmet.
3. Rescuer 1 brings the patient's head into a neutral position with eyes forward, maintaining manual stabilization.
4. The second rescuer (2) removes the chin strap, face piece and nose guard.
5. Rescuer 2 places one hand on the patient's mandible, with their thumb on one side and long index finger on the opposite side. The other hand is paced behind the patient's neck, and pressure is applied to the patient's occipital region.
6. Rescuer 1 releases manual stabilization and spreads the helmet and rotates it anteriorly off the patient's head.
7. Rescuer 1 takes over manual stabilization and support of the patient's head, keeping the head in a neutral position.
8. Apply an appropriate sized cervical collar as necessary.
9. When immobilizing the patient to a long board, utilize padding under the head as needed to maintain a neutral position.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-160*	Effective: *June, 2009*	Revised: *May, 2015*

INFANT TRANSFER OF CUSTODY

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

1. In compliance with Washington Safe Haven Law (RCW 13.34.360), all firefighters shall be trained in and become familiar about their responsibilities as a "qualified person" to accept custody of a "newborn" infant.
   a. The bill defines a newborn infant as one less than 72 hours old.
2. All qualified persons will ascertain from anyone seeking to transfer custody of a child whether the child is less than 72 hours old as determined to a reasonable degree of certainty.
3. The qualified person shall not require a parent to provide any identifying information as a condition of transferring custody of the newborn, and shall attempt to protect the anonymity of the parent.

PROCEDURE:

1. The qualified person should notify dispatch that a newborn or other child has been received and request an ALS response.
2. EMS personnel should medically assess the infant in accordance with Grays Harbor Emergency Medical Services Patient Care Protocols.
3. The qualified person should inquire as to whether the transferring person is the parent of the child, without requesting any identifying information.
4. The qualified person should attempt to verify the date and time of birth of the child to ascertain whether the child is a "newborn" as defined by the law.
5. Based on the information provided to the previous questions, it will be determined if the provisions of Washington Safe Haven Law (RCW 13.34.360)applies.
6. The qualified person will attempt to obtain a family medical history or information.
7. The qualified person shall notify Child Protective Services (1-866-END-HARM/1-866-363-4276) within 24 hours of the infant's transfer.
8. If it is determined that the child is not a newborn as defined in the state statue, the qualified person shall attempt to obtain family medical history and address any immediate health and safety needs of the child. The qualified person must notify law enforcement and Child Protective Services. The parent could face criminal charges if Washington Safe Haven Law (RCW 13.34.360) is not applicable.
9. In the event that employees or members of the department, who do not meet the definition of a "qualified person", are asked to accept transfer of a newborn from a parent, or any child from any person, they must ask the transferring individual to wait while a qualified person is summoned.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-170*	Effective: *August, 2004*	Revised: *May, 2015*

INTRAOSSEOUS INFUSION – NEEDLE SITE & JAMSHIDI

PARAMEDIC

1. Adult Intraosseous infusions shall be completed by utilizing the EZ-IO system when indicated within the Grays Harbor Emergency Medical Services Patient Care Protocols.
2. Intraosseous infusions are to be done only by paramedics.

INDICATIONS:

1. Intravenous fluid therapy or medications are urgently needed and a peripheral IV cannot be established in two (2) attempts or 90 seconds **AND** the patient exhibits one or more of the following:
    a. Cardiopulmonary Arrest (Medical or Trauma)
    b. An altered mental status (GCS of 8 or less)
    c. Respiratory compromise (SaO_2 90% after appropriate oxygen therapy, respiratory rate less than 10 or greater than 40 min.)
    d. Hemodynamic instability (Systolic B/P of less than 90)

CONTRAINDICATIONS:

1. Fracture of the bone selected for IO infusion
2. Excessive tissue at insertion site with the absence of anatomical landmarks (consider alternate site)
3. Previous significant orthopedic procedures (IO within 24 hours, prosthesis – consider alternate site)
4. Infection at the site selected for insertion (consider alternate site)
5. Failed IO attempt in that extremity

PROCEDURE:

1. Take BSI precautions
2. Choose appropriate EZ-IO size:
    a. Yellow 45 mm (>40kg)
    b. Blue 25 mm (>40kg)
    c. Pink 15 mm (3-39 kg)
3. Locate appropriate insertion site:
    a. Proximal/Distal Tibia
    b. Proximal Humorous
4. Prepare site with aseptic technique
5. Prepare the EZ-IO driver and appropriate needle set

6. Stabilize site area
    a. Consider infiltrating the area with **2% Lidocaine** down to the periosteum.
7. Insert the EZ IO needle
    a. Position the Driver at 90 Degree angle with the bone surface
    b. Verify that you can see the 5mm mark through the soft tissue (If it is not visible, the needle is too short)
8. Remove EZ-IO driver from needle set while stabilizing catheter hub
9. Remove stylet from catheter.
    a. Place stylet in approved sharps container
10. Connect primed extension set
11. Confirm placement by flushing with **10 ml of NACL** through the catheter.
12. Begin infusion

13. When needed utilize pressure (syringe bolus, pressure bag or infusion pump) for continuous infusion.
14. Dress site and secure tubing.
15. Apply wristband
16. Monitor EZ IO site and patient condition
    a. Remove catheter within 24 hours.

NOTES:

a. All IV fluids and medications may be given via IO infusion

REFERENCE

1. MED-240: Lidocaine 2%

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-190*	Effective: *August, 2004*	Revised:

MAST PANTS

EMT | **EMT-IV** | **PARAMEDIC**

INDICATIONS:

1. Hypovolemic patients with controlled hemorrhage
2. Multi-system trauma
3. Pelvic injury
4. Bilateral long bone injuries
5. Neurogenic shock

CONTRAINDICATIONS:

1. Pulmonary edema
2. Extensive chest trauma
3. Head injuries
4. Pregnancy (Do not inflate abdominal section)
5. Cardiogenic shock
6. Eviscerations
7. Impaled objects in the lower extremities or abdomen

PROCEDURE:

1. Monitor the patient prior to application
2. Maintain C-spine precautions throughout if indicated
3. Assess all areas prior to application
4. Prepare MAST pants by spreading it out flat
5. Slide patient onto pants; if patients needs cervical precautions, place pants onto backboard and then slide patient onto them
6. Close leg compartments around legs
7. Close abdominal compartment; the top of the garment should be just below the rib margin.
8. Attach the air tubes to the connections and open valves
9. Inflate legs first, followed by the abdomen.
10. Watch for:
    a. ↑ BP
    b. Proper splinting
    c. Velcro starts to crack

d. Pop-off valves open

11. Turn valve tubing to the closed position
12. Monitor vital signs very closely and pay attention to lung sounds
13. Monitor the air pressure in the garment

NOTES:

The MAST pants should not be deflated nor removed in the field unless pulmonary edema develops or you have orders from online medical control.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-200*	Effective: *June, 2009*	Revised:

MORGAN LENS

PARAMEDIC

OVERVIEW:

Morgan lenses provide for an effective method of irrigating the eyes. Most patients are unable to keep their eyes open long enough to achieve proper irrigation. Morgan lens are applied under the patient's eye lids, allowing the patient to close their eye and/or blink while achieving quality irrigation.

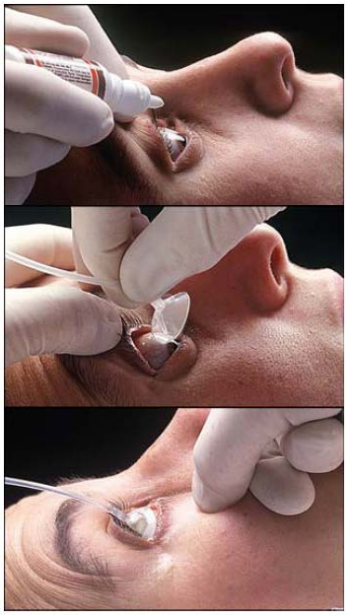
INDICATIONS:

1. Chemical burns/irritation to the eye.

CONTRAINDICATIONS:

1. Laceration/Penetrating/Imbedded injury to the eye.
2. Thermal burns to the eye.

PROCEDURE:



INSERTION

1. Remove contact lenses if present.
2. Administer **Tetra Caine**: in eye(s) to be irrigated.
3. Attach IV Normal Saline Solution to Morgan Lens.
4. Begin flow wide open.
5. Have patient look down, Insert lens under upper eye lid.
6. Have patient look up, retract lower lid and drop lens in place.
7. Observe flow.

REMOVAL

1. Continue flow.
2. Have patient look up.
3. Retract lower lid.
4. Slide Morgan Lens out;
5. Stop flow of fluid.

REFERENCE

1. MED-400: Tetra Caine

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-210*	Effective: *November, 2006*	Revised:

MULTI-PATIENT, MASS CASUALTY AND DISASTER INCIDENTS

EMR	EMT	EMT-IV	PARAMEDIC

DEFINITIONS:

MULTI-PATIENT INCIDENT: Incidents involving up to 10 Immediate or Delayed triaged patients.

MASS CASUALTY INCIDENT: Incidents involving 11 to 50 Immediate or Delayed triaged patients.

DISASTER INCIDENT: Incidents involving greater than 50 Immediate or Delayed triaged patients.

TRIAGE RIBBON: Colored ribbon (Red, Yellow, Green or Black), attached to a patient's arm or leg, indicating patient's treatment and transport priority status.

TRIAGE TAG: Tag indicating patient's priority status along with space for vital signs, injuries, treatment and personal information.

TRIAGE REPORT: Includes the total number of patients and the number of patients triaged Immediate (RED) and Delayed (YELLOW). The triage report is a benchmark that should be relayed early on in the incident to Harbor Dispatch and the receiving medical facility.

NIMS: National Incident Management System.

INDICATIONS:

The guidelines listed here are designed to coincide with individual agency policies and procedures as well as NIMS to achieve the effective management of multiple patient incidents regardless of the number of patients or incident size.

The guidelines listed here should be implemented by the first arriving unit(s) to arrive at a multiple patient incident when it is determined that the needs of the incident exceed the initial available resources. Depending on the number of patients encountered, a Multi-patient, Mass Casualty or Disaster incident should be declared.

PROCEDURE:

The initial actions of the first arriving unit(s) shall be directed towards scene size-up, requesting appropriate resources and initial organization of the scene. Personnel should be utilized to perform triage of all patients utilizing START triage to determine the total number of patients and the number of patients in the Immediate and Delayed categories.

1. Give on-scene report, initiate or establish command, INITIATE TRIAGE.
2. Perform a rapid hazard assessment and establish a safe zone to operate.
3. Provide for occupant protection (charged hand line etc.)
4. Inform Harbor Dispatch of Multi-patient, Mass Casualty or Disaster Incident based on the total number of patients and the number of patients in the Immediate (RED) and Delayed (YELLOW) categories. This is known as the TRIAGE REPORT.
5. Call for additional resources to meet the needs of the incident.
6. Contact receiving medical facility to inform them of the nature of the incident and notify them of the TRIAGE REPORT.
7. Assign positions of Triage, Treatment, Extrication and Transportation as needed.
8. Assign crew(s), unit(s) to accomplish tasks.
9. Coordinate patient transportation with responding EMS units and the receiving medical facility.

ICS POSITIONS, FUNCTIONS AND INCIDENT ORGANIZATION:

TRIAGE:
Triage will be initiated early in the incident, especially when the number of patients and/or the severity of their injuries exceed the capabilities of the initial on-scene personnel. Triage will be performed using START triage.

Simple Triage And Rapid Treatment
Assesses Respirations, Perfusion and Mental Status.

A. Immediate (RED)
   1. Respirations >30 per minute or absent until head repositioned, or
   2. Radial pulse absent or capillary refill > 2 seconds, or
   3. Can not follow simple commands

B. Delayed (YELLOW)
   1. Respirations present and <30 per minute and,
   2. Radial pulse present
   3. Can follow simple commands

C. Minor (Green)
   1. Anyone that can get up and walk when instructed to do so.

D. Deceased (BLACK)
   1. Anyone not breathing after you open the airway

The START system is used only when the needs of the patients exceed the available resources immediately available. Frequently reassess patients and perform more in-depth triage as more personnel become available.

On Multi-patient incidents the individual victims may be triaged and left in place if doing so does not place them in further danger. If left in place, a Triage Tag should be attached indicating the patient's priority status. Initial treatment/stabilization of the patients would occur in place until a transporting unit is assigned and assumes care.

If a Treatment Area is established, the patients should initially be triaged using Triage Ribbon and a Triage Tag attached as they enter the Treatment Area. As a general rule, Treatment Areas are optional for Multi-Patient Incidents but should be established for Mass Casualty Incidents and Disaster Incidents.

All patients triaged Minor (GREEN) shall be directed to a holding area where they can be further assessed, protected from the environment and arrangements made for their release from the scene. These patients should not be allowed to self-deploy to the hospital.

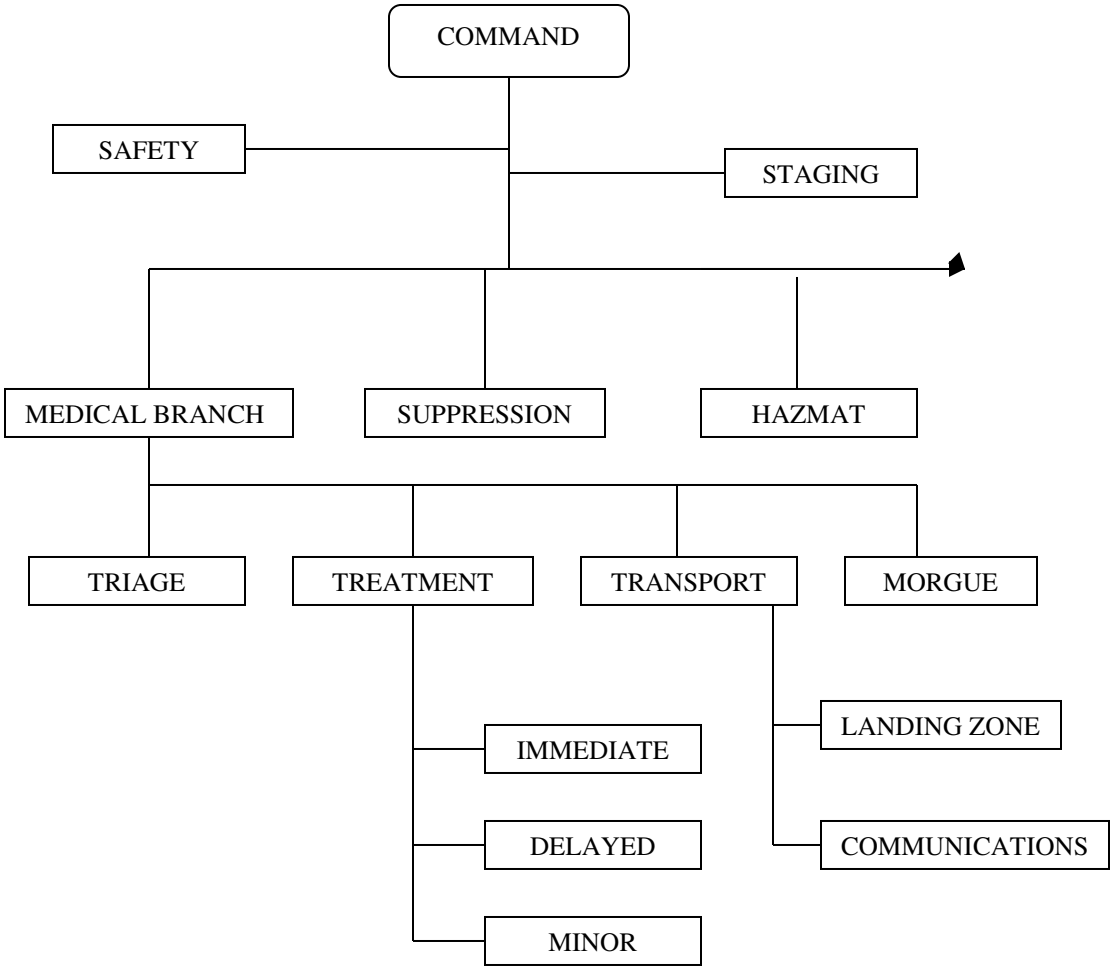
STAGING:
The initial responding unit(s) will respond to the scene to initiate triage, determine resource needs and establish the Incident Command System to the level required by the incident. For Multi-Patient Incidents, where victims have been triaged and left in place, additional arriving units should be directed to individual patients based on their triage priority.

When a Treatment Area has been established, a Staging Area for arriving Ambulances should be designated to coordinate the orderly flow of units into and out of the patient pick-up zone. A Staging Officer should be established to work in conjunction with the Transportation Officer to ensure patients are placed with an appropriate transport unit (ALS vs. BLS). The Staging Officer should operate on a predetermined mutual aid radio frequency identified by the Incident Commander.

TREATMENT AREA:
A Treatment Area may be established for Multi-patient Incidents but should be established on all Mass Casualty and Disaster Incidents. A Treatment Area serves to bring all the patients to one area, localize the need for medical supplies, and allow for a more orderly transport of patients to medical facilities.

The Treatment Area should be divided into Immediate and Delayed patients and clearly identified by color so that patients are placed in the correct area. Entry into the Treatment Area should be through a clearly defined Funnel Point. It is at this Funnel Point that a Triage Tag is attached to the patient and the patient numbered.

INCIDENT COMMAND STRUCTURE:
The Incident Command System should be expanded to meet the needs of the incident as determined by the Incident Commander. Based on those needs the Incident Command System for EMS should be utilized for Multi-Patient, Mass Casualty and Disaster Incidents.



It is recommended that each agency develop policies and procedure for their agency that outline the duties and responsibilities of the above Incident Command Positions. This will ensure interoperability between all agencies responding to a Multi-Patient, Mass Casualty or Disaster Incident.

COMMUNICATIONS:

Communication with the receiving medical facility is critical to the successful mitigation of a Multi-Patient, Mass Casualty or Disaster Incident. The following steps should be considered to eliminate confusion and to facilitate an orderly flow of patients.

- **Triage Report:** The initial "head count" of the injured patients will allow the hospital to implement their appropriate internal response to the incident.

- **Individual patient reports:** These may be handled by the individual transporting units as they leave the scene if transport time and distance will allow. If a Transportation Officer or Communications Officer is established, individual patient reports should be made by them to the receiving facility instead of by the transporting unit. The method of communicating with the receiving facility should be made clear to all transporting units prior to their departure from the scene.
- **Content of patient report:** In a Multi-patient incident, if transport times allow, it may be possible to include patient information such as name, age, and DOB as well as the nature of the injuries and treatment rendered prior to arrival at the medical facility. In Mass Casualty incidents or when reports are being given by the Transportation Officer or his designee, reports should consist of patient #(thus "patient number 1 is"), triage priority (Immediate or Delayed), approx. age, nature of injuries, treatment documented in the treatment area, name of transporting agency and their ETA at the facility.
- **Method of communicating:** If individual transporting units are contacting the receiving facility during transport then cellular phone, HEAR, or WHEERS radio should be used to convey information. Reports should be kept very brief to allow the next transporting unit access to medical control. If patient reports are being made by the Transportation Officer or his designee, communication should be made using cellular phone, the HEAR or WHEERS radio and the connection maintained until all patients have left the Treatment Area and are en-route to the receiving facility.

REFERENCE:

1. REF-060: START Triage

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-215*	Effective: *January 2017*	Revised: *December 2016*

NALOXONE (NARCAN) ADMINISTRATION FOR EMT

EMT **EMT-IV**

INDICATIONS FOR NASAL NARCAN:

3. Known narcotic or opioid overdose.
4. Respiratory depression of unknown origin.
5. Coma or Altered Level of Consciousness of unknown origin.

INDICATIONS FOR IM ADMINISTRATION

10. For IM administration:
    b. Excessive epistaxis
    c. Nasal trauma
    d. Septal abnormalities
    e. Nasal congestion with mucous discharge
    f. Destruction of nasal mucosa from surgery or past cocaine abuse
11. For IM administration: Hypersensitivity to Naloxone

PROCEDURE:

1. Request an ALS upgrade (give incoming report)
2. If apneic and pulseless, provide CPR.
3. If apneic but with a pulse, provide ventilatory assistance as needed.
4. Appropriately determines the need for Naloxone.
5. Administer the Naloxone:
   a. confirm right medication: **Naloxone**
   b. checks medication for expiration date
   c. checks medication for cloudiness or discoloration
   d. selects proper needle and syringe
   e. cleanse vial rubber top
   f. insert needle into vial and inject air from syringe into vial
   g. withdraw appropriate volume of medication
   h. For Intranasal (IN) administration:
      i. Removes and discards needle in sharps container
      ii. places mucosal atomizer device (MAD) on syringe
      iii. using free hand to hold head stable, uses other hand to place MAD into nostril and applies pressure
      iv. expels half the dose into nostril
      v. removes MAD, places in opposite nostril and expels remainder of medication
      vi. discards syringe and MAD in proper biohazard bag

i. For Intramuscular (IM) administration:
    i. Selects and cleans appropriate IM injection site:
        a. Deltoid – upper arm
        b. Dorsal Gluteal – butt muscle
        c. Vastus Laterolis – Anterior surface of upper leg
        d. Rectus Femoris – Lateral surface of upper leg
    ii. inserts needle at 90^{o} angle at injection site
    iii. if blood returns on withdrawal of plunger on syringe, still ok to inject.
    iv. injects medication
    v. withdraws needle and discards syringe in sharps container
    vi. applies pressure over injection site
j. Records time of injection.
k. Reassess vital signs.
l. Repeat after 4 minutes if patient did not respond to the initial dose.
m. May repeat dosing after 15 minutes only if the patient responded to the initial two doses.

REFERENCE

2. MED-300: Naloxone (Narcan)

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-220*	Effective: *August, 2004*	Revised: *May 2015*

NEEDLE THORACENTESIS

PARAMEDIC

PRECAUTIONS:

- A tension pneumothorax may result from CPR or positive pressure ventilation.
- A misplaced ET tube may present like a pneumothorax.
- If patient is intubated, an increase in compliance may be due to a pneumothorax.

INDICATIONS:

1. Tension Pneumothorax
2. Absent breath sounds, Tachypnea, JVD, Hypoxia, Hyper-expanded chest, narrowing pulse pressures, cyanosis, and s/s of shock

CONTRAINDICATIONS:

1. None in the setting of tension pneumothorax
2. Not recommended for simple pneumothorax or hemo-pneumothorax

PROCEDURE:

The Cook Emergency Pneumothorax Kit is the preferred device for performing a needle thoracentesis.

1. Connect the syringe to the needle catheter device
2. Prep the access area with Chlorhexidine wipes if time permits. Find your access point
    a. Preferred: between 4th & 5th rib; mid-axillary line. OR
    b. Secondary: mid-clavicular, 2nd intercostals space.

3. Insert catheter through the skin along the superior aspect of the rib, keeping one hand pulling suction on the syringe while advancing needle to puncture the parietal pleura.
4. Once the air is freely aspirated into the syringe, the needle should not be advanced any further. Slowly advance the catheter in the pleural space. If any resistance is encountered, the catheter should not be forced.

5. Secure catheter with device that is included or with tape.
6. Re-evaluate lung sounds and hemodynamic status of your patient.
7. Stopcock, connecting tubing and chest drain may be attached at this point

NEEDLE DECOMPRESSION

1. Insert an appropriate over the 3.25" needle catheter (10-16 gauge IV catheter) mid-clavicular line 2nd intercostal space at a 90 degree angle (take care to avoid the inferior aspect of the rib) or insert an appropriate over the needle catheter between the 4th and 5th rib mid-axillary line; approximately male nipple line.
2. Remove the needle leaving the catheter in place.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-230*	Effective: *August, 2004*	Revised:

NASOGASTRIC TUBE INSERTION

PARAMEDIC

OVERVIEW:

Paramedics may insert a NG tube on pediatric patients requiring intubation with an uncuffed tube and adults with distended abdomens in cardiac arrest. Its purpose is to relieve pressure and distention of the stomach by removing air and fluid.

PROCEDURE:

1. Measure the length of the tube by placing the tip of the tube over the stomach and extending it to the patient's ear and from the ear to the tip of the nose. Note the marks on the tube.
2. Lubricate the distal end of the tube.
3. Insert the NG tube into the nose and slowly pass it the distance to where the tube was marked.
    a. Flexing the neck will help with tube placement as long as C-spine precautions are maintained.
4. To check for proper tube placement, connect a 1060-20cc syringe to the NG tube and attempt to aspirate stomach contents. If no contents are obtained disconnect the syringe. Fill the same syringe with air and inject it into the tube rapidly while listening over the stomach.
    a. If either of these techniques do not work, remove the tube and try again.
    b. If aspiration of the NG tube is done to quickly, the tube can collapse and no contents would be seen.
5. Secure in place if you have positive confirmation on placement.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-240*	Effective: *June, 2009*	Revised:

PELVIC WRAP SPLINT

EMT | **EMT-IV** | **PARAMEDIC**

INDICATIONS:

1. Patient with a suspected pelvic fracture secondary to blunt trauma.

CONTRAINDICATIONS:

1. Hip fracture.
2. Proximal femur fracture.

PROCEDURE:

1. Assemble equipment:
    a. 1 Bed Sheet
    b. 4 Towel Clips/Safety Pins
2. Place one rescuer on each side of the patient.
3. Place the folded sheet under the patient's pelvis, aligning the top of the sheet with the patient's umbilicus.
4. Rescuer 1 passes his end of the sheet of the sheet to rescuer 2.
5. Rescuer 2 folds the sheet back toward rescuer 1, aligning the fold with the patient's iliac crest nearest to rescuer 2.
6. Rescuer 2 passes the unfolded end of the sheet to rescuer 1.
7. Rescuer 2 holds the folded end of the sheet at the fold and pulls toward their self while rescuer 1 pulls the other end of the sheet toward their self.
8. Rotate the patient's feet internally prior to applying the splint, unless leg fractures are present.
9. Increase pressure until immobilization is achieved.
10. Rescuer 3 secures the sheet into place with the 4 clips/pins. 2 clips/pin with the fold and 2 clips/pins at opposite iliac crests.

NOTES:

a. Optional MPD Approved after-market pelvic splint device.
    i. Example: SAM Pelvic Sling Splint

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-250*	Effective: *August, 2004*	Revised: *May, 2015*

PERICARDIOCENTESIS

PARAMEDIC

INDICATIONS:

1. Signs and symptoms of cardiac tamponade.

CONTRAINDICATIONS:

1. None in the setting of tamponade.

PROCEDURE:

1. Insert the 14 gauge needle between the xiphoid process and the left costal margin at a 30 – 45 degree angle into the skin.
2. Aim the needle at the left shoulder and advance the needle while aspirating constantly.
3. Once fluid is aspirated, remove as much as possible. (30-50ml)

NOTES:

a. The pediatric heart is considerable more shallow than the adult.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-255*	Effective: *January 2015*	Revised:

PULSE OXIMETRY

EMT | **EMT-IV** | **PARAMEDIC**

INDICATIONS:

5. Signs and symptoms of respiratory distress or dyspnea
    a. Shortness of breath
    b. Chest pain or trauma
    c. Altered level of consciousness
    d. Pregnancy or active labor
6. Anytime oxygen is in use or to be administered [(a)]

CONTRAINDICATIONS:

3. Carbon monoxide poisoning
4. Cyanide poisoning

PROCEDURE:

7. Remove nail polish if necessary. [(b)]
8. Place probe on patient's finger. [(c)]
9. Assess for a good signal (green light or pulse reading correlating with palpable radial pulse).
10. Record reading. [(d)]

NOTES:

d. Pulse Oximetry should be accomplished simultaneously with the initial administration of oxygen to allow for a "room air" reading.
e. Perform the testing procedure as outlined in the instructions for your specific device.
f. Use appropriate pediatric probe for children or infants.
g. Pulse oximetry is inaccurate for patients in the following clinical situations:
    i. Cardiac arrest
    ii. Shock
    iii. Hypothermia
    iv. Jaundice

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-260*	Effective: *August, 2004*	Revised: *May, 2015*

RAPID SEQUENCE INTUBATION

PARAMEDIC

PROCEDURE:

TIME	*ACTION*	*DOSE*
0 - 10 minutes	Preparation	
0 - 5 minutes	Preoxygenation to an O_2 Sat of >90%	
0 - 3 minutes	Pretreatment: Lidocaine for ↑ ICP~**Atropine** for children < 8 years old	
Zero minutes	Paralysis with induction: Pre-medication: ~**Propofol** OR ~**Versed OR** **~Valium** Paralysis: ~**Succinylcholine**	
Zero plus 25 seconds	Protection - Sellick's Maneuver	
Zero plus 45 seconds	Placement- intubate, check placement	
After confirmed placement	For sedation: ~ **Propofol** OR ~**Versed** OR ~**Valium** ***If Versed or Valium used, also use Fentanyl 50mcg.*** For continued paralysis: ~**Vecuronium** OR ~ **Pancuronium**	

INDICATIONS:

1. Patient is unable to protect their own airway.
2. Patient's expected course indicates that intubation will be necessary and will be more safely established at the present.

CONSIDERATIONS:

1. Extreme caution should be used in cases that are expected to be difficult intubations – have ET Inducer ready.
2. Use of **Succinylcholine** as a paralytic should not be used in patients with…
    a. unhealed major burns older than 24 hours old;
    b. crush injuries.
3. Considerations for dialysis patients:
    a. do not use Succinylcholine,
    b. Administer **Albuterol** via ET.
4. In cases that Succinylcholine as a paralytic is contraindicated, **Propofol** may be utilized as such

REFERENCE:

1. PROC-100: ET Inducer – I.E. Eeschmann Catheter
2. MED-060: Albuterol
3. MED-080: Atropine Sulfate
4. MED-110: Diazepam (Valium)
5. MED-180: Fentanyl
6. MED-280: Midazolam HCL (Versed)
7. MED-345: Pancuronium
8. MED-360: Propofol
9. MED-380: Succinylcholine
10. MED-430: Vecuronium

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-270*	Effective: *August, 2004*	Revised:

RESTRAINT GUIDELINE FOR COMBATIVE/VIOLENT PATIENTS

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

INDICATIONS:

1. A recognized health care emergency and implied consent exist.
2. Patient is exhibiting violent or combative behavior.

CONTRAINDICATIONS:

1. Insufficient resources (adequate number of personnel).

PREPARATION:

1. Request Law Enforcement.
2. ALS upgrade is required.
3. Prepare soft restraints.

PROCEDURE:

1. Risk assessment- do you need to take the patient down or can you wait for law?
2. Each member of the team secures their assigned limb with the leader controlling the head.
3. Take the patient to the ground as gently as possible.
4. Secure patient to backboard PRN.
5. Place soft restraints on each extremity, secure one arm above the head with the other secured towards the torso.
6. Place the gurney straps over the patient to secure for transport.
7. If patient continues to struggle once secure or is not compliant with immobilization, chemical restraint is indicated.
8. Once patient is secured, continue assessment and appropriate treatment. Monitor closely through transport.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-280*	Effective: *June, 2009*	Revised:

SPINAL IMMOBILIZATION

EMR | EMT | EMT-IV | PARAMEDIC

INDICATIONS:

1. Spinal immobilization will be initiated for any patient who has sustained blunt trauma (MVA, fall, etc.) and displays ANY of the following. This assessment should be performed in the order displayed.
    a. MOI has a high likelihood of causing spinal injury.
    b. Inability to communicate with the patient (language/hearing/speech/children).
    c. Altered LOC (GCS <15).
    d. Presence of intoxicants by history or assessment.
    e. Neurological deficit or complaint.
    f. Spine pain or tenderness.
    g. Anatomical deformity of the spine.
2. Patients who's MOI is solely penetrating will be spinally immobilized if the display any of the following:
    a. Inability to communicate with the patient (language/hearing/speech/children).
    b. Altered LOC (GCS <15).
    c. Presence of intoxicants by history or assessment.
    d. Neurological deficit or complaint.
    e. Spine pain or tenderness.
    f. Anatomical deformity of the spine.
3. Any other patient with an MOI that would have an index of suspicion for a spinal injury will have their spine immobilized until cleared at the receiving facility.

CONTRAINDICATIONS:

1. None.

PROCEDURE:

1. Initiate manual spinal immobilization.
2. Assess sensation, circulation and motor function
3. Apply cervical collar.
4. Extricate patient while maintaining in-line spinal stabilization.
5. Immobilize patient onto long back board.
6. Pad voids as needed.
7. Strap patient's body to board in following order: torso-legs-head.

8. Apply appropriate head immobilization device.
9. Once head immobilized – discontinue manual stabilization.
10. Reassess sensation, circulation and motor function

CONSIDERATIONS:

1. If you feel that a patient needs to be immobilized regardless of the above criteria.
2. Use a high index of suspicion when assessing MOI in patients <10 or >50 y/o.
3. Some patients may not be able to be immobilized utilizing standard techniques. Immobilize these patients to the best of your ability – it may require innovation.
4. Pregnant patients in spinal immobilization need to be transported in left lateral recumbent position.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-290*	Effective: *August, 2004*	Revised: *May, 2015*

SURGICAL CRICOTHYROTOMY

PARAMEDIC

INDICATIONS:

1. The inability to ventilate the patient with a BVM or the inability to perform endotracheal intubation by a less invasive means (i.e. ET inducers)
2. Massive oral, nasal, or pharyngeal hemorrhage, masseter spasm, clenched teeth with no response to paralytics, or structural deformities of the upper airway.
3. Airway obstruction which cannot be relieved using basic airway maneuvers.

CONTRAINDICATIONS:

1. Endotracheal intubation by a less invasive means.
2. Significant damage to the cricoid cartilage or larynx.
3. Patients with massive neck edema

COMPLICATIONS:

1. Asphyxia from time involved in procedure.
2. Aspiration of blood.
3. Creation of false passage in tissue
4. Hematoma formation
5. Hemorrhage
6. Laceration to esophagus

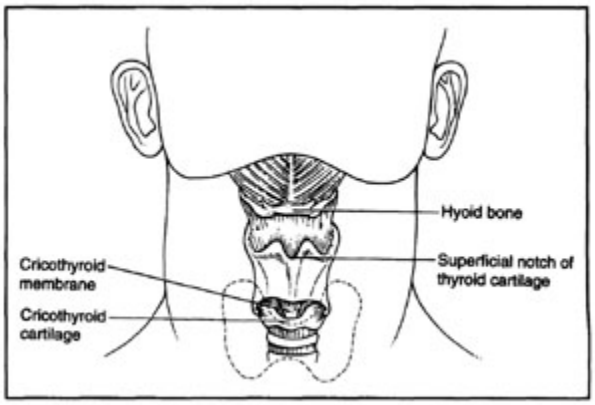
PROCEDURE:

H&H Civilian Cric Pack

Use of the H&H Civilian Cric Pack device is the preferred method of performing a surgical cricothyrotomy

1. Wear BSI (gloves, goggles, etc.)
2. Place pt. in supine position and extend neck.
3. Identify the Cricoid Membrane located between the cricoid cartilage and thyroid cartilage
4. Continue to ventilate with BVM

5. Prepare the area with Chlorhexidine wipes if time permits
6. Stabilize the thyroid cartilage with your non-dominate hand
7. Puncture the cricothyroid membrane at a 90-degree angle with the catheter/ syringe assembly.
8. Aspirate for air upon introducing the catheter/syringe.
9. Upon aspiration of air, redirect the catheter/syringe in a 45-degree angle toward the feet and advance until the stopper meets the skin.
10. Remove the stopper.
11. Advance the catheter until the flange rests on the skin.
12. Remove the needle-syringe assembly
13. Secure with the strap provided.
14. Attach the connecting tube to the 15mm adaptor
15. Attach a BVM and **ETCO$_2$** - ventilate the patient.



ALTERNATIVE METHOD

1. Wear BSI (gloves, goggles, etc.)
2. Assemble the required equipment.
3. Place patient in supine position and extend neck.
4. Continue to ventilate with BVM.
5. Palpate the cricothyroid membrane between the thyroid and cricoid membranes.
6. Prepare the area with Chlorhexidine wipes eswabs.
7. Stabilize the thyroid cartilage with your non-dominate hand.
8. Make a vertical incision over the cricothyroid membrane. (at least 2cm's)
9. Feel the cricothyroid membrane. Make a horizontal incision over the lower part of the membrane.
10. Insert the scalpel handle into the incision and rotate it 90 degrees to open the airway. (be cautious of spraying secretions)
11. Insert an appropriately sized cuffed endotracheal tube into the incision through the cricothyroid membrane. Direct the tube distally into the trachea. Inflate the cuff and ventilate the patient.
12. Check for proper tube placement.
13. Secure ET tube in place, attach a BVM and **ETCO$_2$** - ventilate the patient.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-300*	Effective: *August, 2004*	Revised:

TASER REMOVAL

PARAMEDIC

NOTE:

Removal of a TASER barb is an automatic ALS response.
Only paramedics shall remove any TASER barbs.

INDICATIONS:

1. When requested by LAW to remove TASER barbs from an individual.

CONTRAINDICATIONS:

1. TASER's will not be removed from the following locations:
    a. Head
    b. Face
    c. Neck
    d. Breasts
    e. Groin
2. A TASER barb in any the above locations must be removed by the ER physician

POCEDURE:

1. Make sure that LAW has the scene secure and it is safe to approach the patient.
2. Take all BSI precautions.
3. Make sure that the TASER lead has been removed from the gun.
4. Using a 4X4, stretch the skin around the barb so that it is taught. Grasp the barb tightly and using a quick firm motion, pull straight out from the skin.
5. If after (2) attempts it does not disengage, transport to ER for removal per ER physician.
6. Make sure to dispose of barb(s) in a sharps container.
7. Cleanse site with soap and water and apply dressing if needed.
8. Perform a complete medical assessment of the patient to ensure no other medical problems are present.
9. Document completely, including the location of TASER barb(s) and your medical assessment with vital signs.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-310*	Effective: *June, 2009*	Revised:

TRANSCUTANEOUS PACING (TCP)

PARAMEDIC

OVERVIEW

Transutaneous pacing (TCP) is a method of applying electrical energy to a patient's chest and through the patient's heart in order to stimulate cardiac contraction. Providers should keep in mind that TCP can be very painful and that patients should be sedated before or as soon as possible after the initiating of TCP.

INDICATIONS:

1. Symptomatic bradycardia.

CONTRAINDICATIONS:

1. Remove any transdermal medication patches or jewelry that may interfere with pad placement.

PROCEDURE:

1. Sedate patient if time permits or as soon as possible.
    a. **Propofol**: OR
    b. **Versed**: OR
    c. **Diazepam**:
2. Consider Fentanyl for pain management
3. Place pacer pads on patient's chest.
4. Turn pacer power on.
5. Set pacer rate at desired rate – 80 beats/min preferred rate.
6. Increase milliamps from minimum setting until capture is obtained.
    a. Widening of QRS
    b. Broad T-wave
    c. Palpable pulses.
7. Maintain patient sedation.

REFERENCE:

1. MED-110: Diazepam
2. MED-180: Fentanyl
3. MED-280: Midazolm HCL (Versed)
4. MED-370: Propofol

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *PROC-320*	Effective: *June, 2009*	Revised:

VENTILATOR GUIDELINE (ATV)

PARAMEDIC

OVERVIEW

1. Patients that are apneic or in a worsening state of shortness of breath requiring ventilatory support, that have either been orally or nasally intubated. Automatic Transport Vents (ATV) should be used during inter-facility transports and also in the field in such circumstances where there are not enough personnel on scene to manage the airway manually. (i.e. not to be used as a first line airway device)
2. Typically, respiratory care settings will already have been established by the Physicians and administered by the respiratory therapists.

PROCEDURE:

8. Always keep a bag-valve mask close by in case of ventilator failure.
9. Establish airway and employ BLS adjuncts to prepare for intubation
10. Perform intubation making sure proper tube placement
11. Determine tidal volume of pt., this equation can be used for either an adult or pediatric patient. **10ml x pt. weight (kg) = Tidal Volume (10ml/kg) with a maximum tidal volume of 800ml.**
    a. Pediatric Tidal Volume of 8ml/kg
12. Set desired breaths per minute
13. Remove BVM and attach the outlet port of the ventilator assembly to the ET tube
14. Observe chest rise/fall during ventilation cycle. Personnel should continue to monitor respiratory status to ensure ATV is working properly and they shall also monitor **$ETCO_2$** throughout transport

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GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOL MANUAL

-- Patient Care Protocol Reference --

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-010*	Effective: *August, 2004*	Revised: *May, 2015*

APGAR SCALE

EMR | EMT | EMT-IV | PARAMEDIC

		1 min. Reading	5 min. Reading
A Appearance (Skin Color)	Normal over entire body = **2** Normal, except for extremities = **1** Blue/Pale = **0**		
P Pulse	Above 100 = **2** Below 100 = **1** Absent = **0**		
G Grimace (Reflex Irritability)	Sneeze, cough, pulls away = **2** Grimace = **1** No response = **0**		
A Activity	Active movement = **2** Arms & legs flexed = **1** Absent = **0**		
R Respiration	Good, strong cry = **2** Slow, Irregular = **1** Absent = **0**		

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-013*	Effective: *May, 2015*	Revised:

AVPU

EMR | EMT | EMT-IV | PARAMEDIC

Response	Infant	Child/Adult
A Alert	Curious/Recognizes parents	Alert/Aware of surroundings
V Responds to Voice	Irritable/Cries	Opens eyes
P Responds to Pain	Crisis in response to pain	Withdraws from pain
U Unresponsive	No response	No response

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-016*	Effective: *May, 2015*	Revised:

Glasgow Coma SCALE

EMR | EMT | EMT-IV | PARAMEDIC

EYE	<1 y/o	>1 y/o	
1	None	None	
2	Opens to pain	Opens to pain	
3	Opens to shout	Opens to verbal command	
4	Opens spontaneously	Opens spontaneously	
VERBAL	**<2 y/o (preverbal)**	**2-5 y/o**	**>5 y/o**
1	None	None	None
2	Moans to pain	Moans to pain	Incomprehensible sounds
3	Persistent cries to pain	Persistent cries to pain	Inappropriate words
4	Irritable but consoles	Inappropriate words	Confused
5	Coos, babbles	Appropriate words	Oriented
MOTOR	**<1 y/o**	**>1 y/o**	
1	None	None	
2	Extension to pain	Extension to pain	
3	Flexion to pain	Flexion to pain	
4	Withdrawal to pain	Withdrawal to pain	
5	Withdrawal from touch	Localizes to pain	
6	Spontaneous movement	Obeys commands	

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-021*	Effective: *September 2014*	Revised:

F.A.S.T. STROKE ASSESSMENT TRIAGE TEST

EMR | EMT | EMT-IV | PARAMEDIC

OVERVIEW:

The F.A.S.T. assessment tool (also known at the Cincinnati Prehospital Stroke Scale + Time) effectively identifies patients with stroke. It's easy to remember: Facial droop, Arm lift, Speech, + Time. If face, arms or speech is abnormal, it is likely the patient is having a stroke. If possible, pre-hospital providers should try to establish time of onset of stroke symptoms. The timing has important implications in regards to potential thrombolytic therapy.

THREE PARTS:

1. **Facial droop:** Have patient show his/her teeth or smile
    a. Normal - Both sides of his/her face move equally well
    b. Abnormal - One side of the face does not move as well as the other

2. **Arm drift:** Have patient close his/her eyes and hold his/her arms out straight for 10 seconds. The palms should be up, thumbs pointing out.
    a. Normal - Both arms move the same direction or do not move at all
    b. Abnormal - One arm does not move or one arm drifts down compared to the other

3. **Speech:** Have the patient say a simple phrase such as "Firefighters are my friends."
    a. Normal - The patient uses the correct words with no slurring
    b. Abnormal - The patient slurs his/her words, or is unable to speak
4. **Time: Time of onset**
    a. Ask the patient, family or bystanders the last time the patient was seen normal.

TEST	NORMAL	ABNORMAL
Facial droop: Ask the patient to show his or her teeth or smile.	 Both sides of the face move equally.	 One side of the face does not move as well as the other.
Arm drift: Ask the patient to close his or her eyes and extend both arms straight out for 10 seconds. The palms should be up, thumbs pointing out.	 Both arms move the same or both arms do not move at all.	 One arm drifts down, or one arm does not move at all.
Speech: Ask the patient to repeat a simple phrase such as "Firefighters are my friends."	The patient says it correctly, with no slurring.	The patient slurs, says the wrong words, or is unable to speak.
Time: Ask the patient, family or bystanders the last time the patient was seen normal. Encourage family to go to the hospital to provide medical history, or obtain contact information for a person who can provide medical history.		

Stroke Warning Signs

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden, severe headache with no known cause

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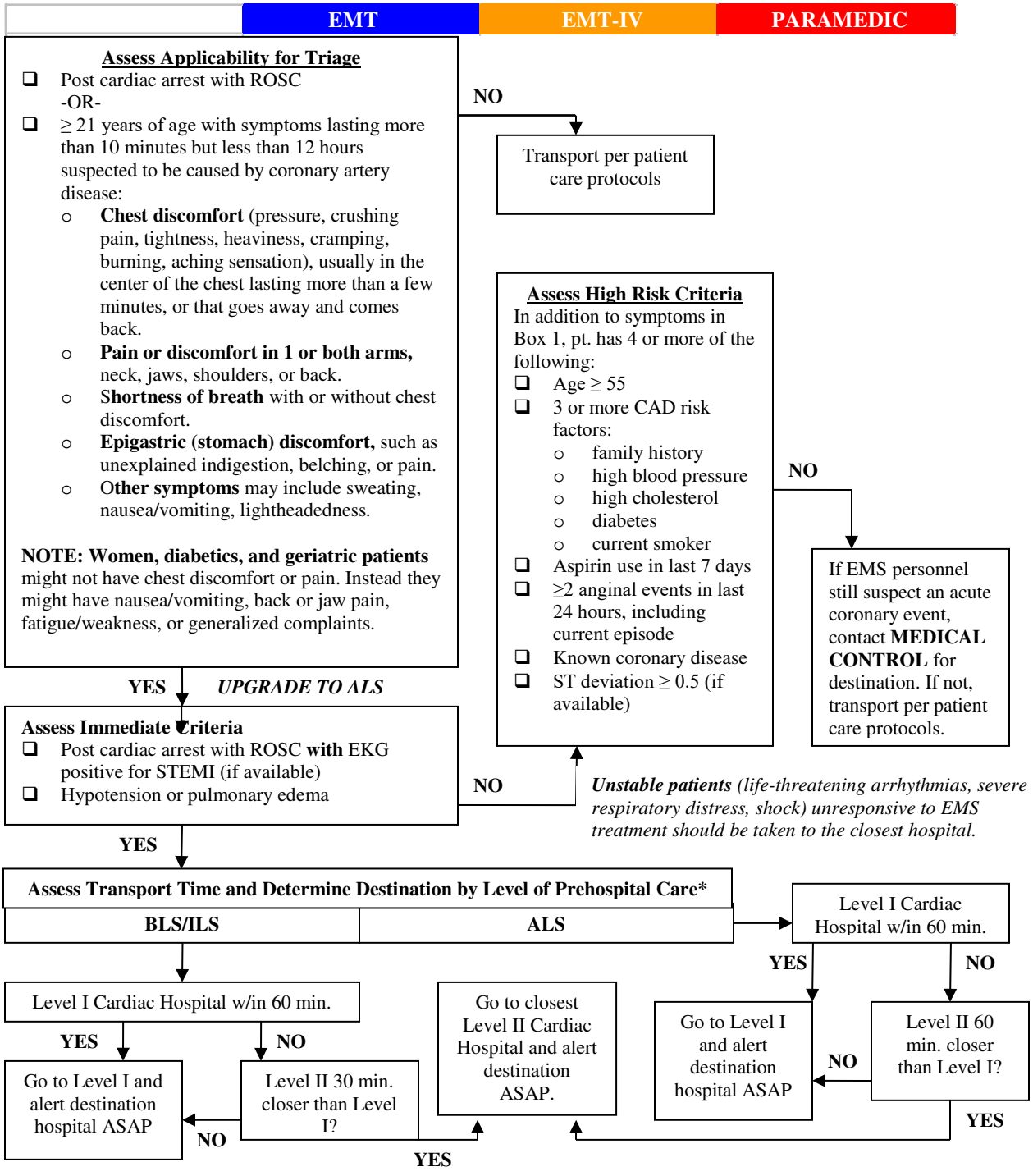
Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *REF-025*	Effective: *January, 2012*	Revised: *May 2015*

CARDIAC TRIAGE DESTINATION PROCEDURE



Grays Harbor/North Pacific County Area Emergency Cardiac Hospitals

LEVEL	HOSPITAL	CITY	COUNTY
II	Grays Harbor Community Hospital	Aberdeen	Grays Harbor
I	Providence St. Peter's Hospital	Olympia	Thurston
II	Summit Pacific Medical Center	Elma	Grays Harbor
II	Willapa Harbor Hospital	South Bend	Pacific

Grays Harbor/North Pacific County Cardiac Transport Guidelines:

The goal for patients experiencing a STEMI is a time of transport to catheter of 90 minutes. The following will be utilized as a guideline when determining patient transport destination in these cases.

Grays Harbor County

1. For patients located East of Wynoochee River, transport to Providence St. Peter's Hospital, Olympia.
2. For patients located West of Wynoochee River, transport to Grays Harbor Community Hospital, Aberdeen.

North Pacific County

3. For Patients in the Pacific County area of North River, transport to Grays Harbor Community Hospital, Aberdeen.
4. For all other patients in North Pacific County, transport to Willapa Harbor Hospital, South Bend.

For patient transports to Grays Harbor Community Hospital,Willapa Harbor Hospital and Summit Pacific Medical Center, the patients are to remain on the EMS gurney and a rapid assessment is to be performed by the Emergency Room Physician to determine the need for thrombolytic therapy. Once the determination has been made on thrombolytics, the patient will continue transport to Providence St. Peter's Hospital by the initial transporting agency.

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-030*	Effective: *August, 2004*	Revised:

CORE BODY TEMPERATURES - HYPOTHERMIA

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

CORE BODY TEMP	SYMPTOMS
99F-96F (37.0C-35.5C)	Shivering
95F-91F (35.5C-32.7C)	Intense shivering, if conscious, patient has difficulty speaking
90F-86F (32.0C-30.0C)	Shivering decreases, muscular rigidity, decreased LOC and muscle coordination is also decreased.
85F-81F (29.4C-27.2C)	Irrational, stuporous state, pulse and respirations are slowed and cardiac arrhythmias may develop.
80F-78F (26.6C-20.5C)	Patient loses consciousness, most reflexes cease to function, and heart beat becomes erratic.

NOTE: USE A HYPOTHERMIA THERMOMETER

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-035*	Effective: *August 2016*	Revised:

MARCH TRAUMA BAGS

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

The purpose of the MARCH trauma bag is to provide an easily deployed and mobile bag that a provider can use to treat life threats across multiple trauma patients. This reference is to provide a list of the contents within a MARCH bag.

Reference MSO/EMC price list and vendor memo which will provide uniformity amongst all agencies covered by the Grays Harbor protocols.

Contents

Item	Quantity
1. Bag (Option A or B)	1-2 per primary medic unit
2. Gloves	3-5 patients worth
3. Eye Protection	1
4. Trauma shears	2
5. 25' Looped Webbing	1
6. Combat application tourniquet	4
7. Nasopharyngeal airway	2 of each size 28 fr & 32 fr
8. Cricothyrotomy kit (optional for ALS)	1
9. Thoracentesis needle (optional for ALS)	2
10. Asherman Chest Seal	2
11. HALO Chest Seal	2
12. H&H PriMed compressed gauze 4"	6
13. Israeli ABD Bandage	1
14. Israeli 4" Bandage	6
15. 3" roll medical tape	1
16. Cravats	4

REFERENCE

1. PROC-015: Active Shooter Incidents/Hostile Incidents

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-040*	Effective: *August, 2004*	Revised:

Pulse, Blood Pressure, and Respiration - Ranges

EMR | EMT | EMT-IV | PARAMEDIC

NORMAL RANGES OF ARTERIAL BLOOD PRESSURE (mm/Hg)			
Newborn	80/46	**8-9 YEARS**	106/58
6-12 Months	89/60	**9-10 YEARS**	108/58
1 YEAR	96/66	**10-11 YEARS**	112/58
2 YEARS	98/64	**11-12 YEARS**	114/60
3 YEARS	100/68	**12-13 YEARS**	116/60
4 YEARS	98/66	**13-14 YEARS**	118/60
5 YEARS	94/56	**MALE ADULT**	Systolic: Pt's age + 100 (up to 150 mmHg) Diastolic: 60 -90 mmHg
6-7 YEARS	100/56	**ADULT FEMALE**	Systolic: Pt's age+90mmHg (up to 140 mmHg Diastolic: 50-80 mmHg

NOTE: The systolic values given above may vary up or down from the mean significantly and still remain in the normal range as follows:

Newborn: + or – 16
6 mos to 4 yrs: + or – 25
4 yrs to 10 yrs: + or – 16
10 yrs to 14 yrs: + or – 18

The diastolic values given above (for Newborn through 14 years old) may vary up to + or – 24 mmHg from the mean and still remain in the normal.

NORMAL PULSE RATES (HEART BEAT PER MINUTE)			
Newborn	110-150	**6 YEARS**	80-100
11 Months	100-140	**8 YEARS**	76-90
2 YEARS	90-110	**10 YEARS**	70-110
4 YEARS	80-120	**ADULT**	60-100

NORMAL RESPIRATORY RATES (RESP. PER MINUTE)			
Neonate	30-50	**10 YEARS**	14-22
2 YEARS	20-30	**ADOLESCENT & ADULT**	12-20

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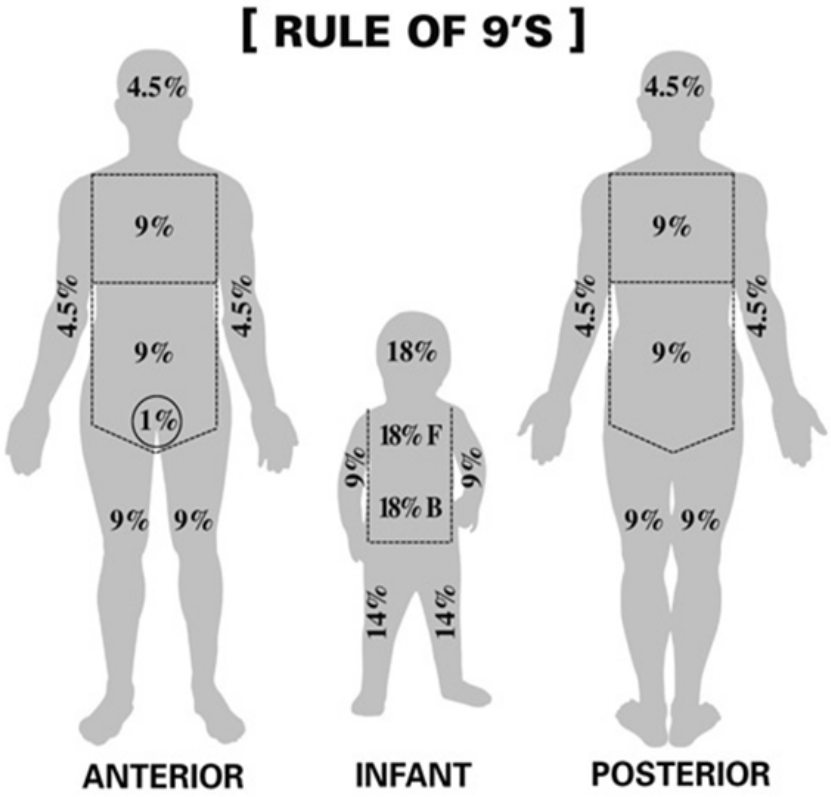
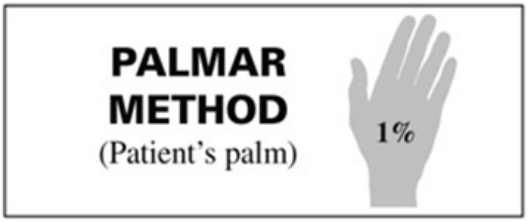
Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-050*	Effective: *June, 2009*	Revised:

RULE OF 9'S

EMR | EMT | EMT-IV | PARAMEDIC





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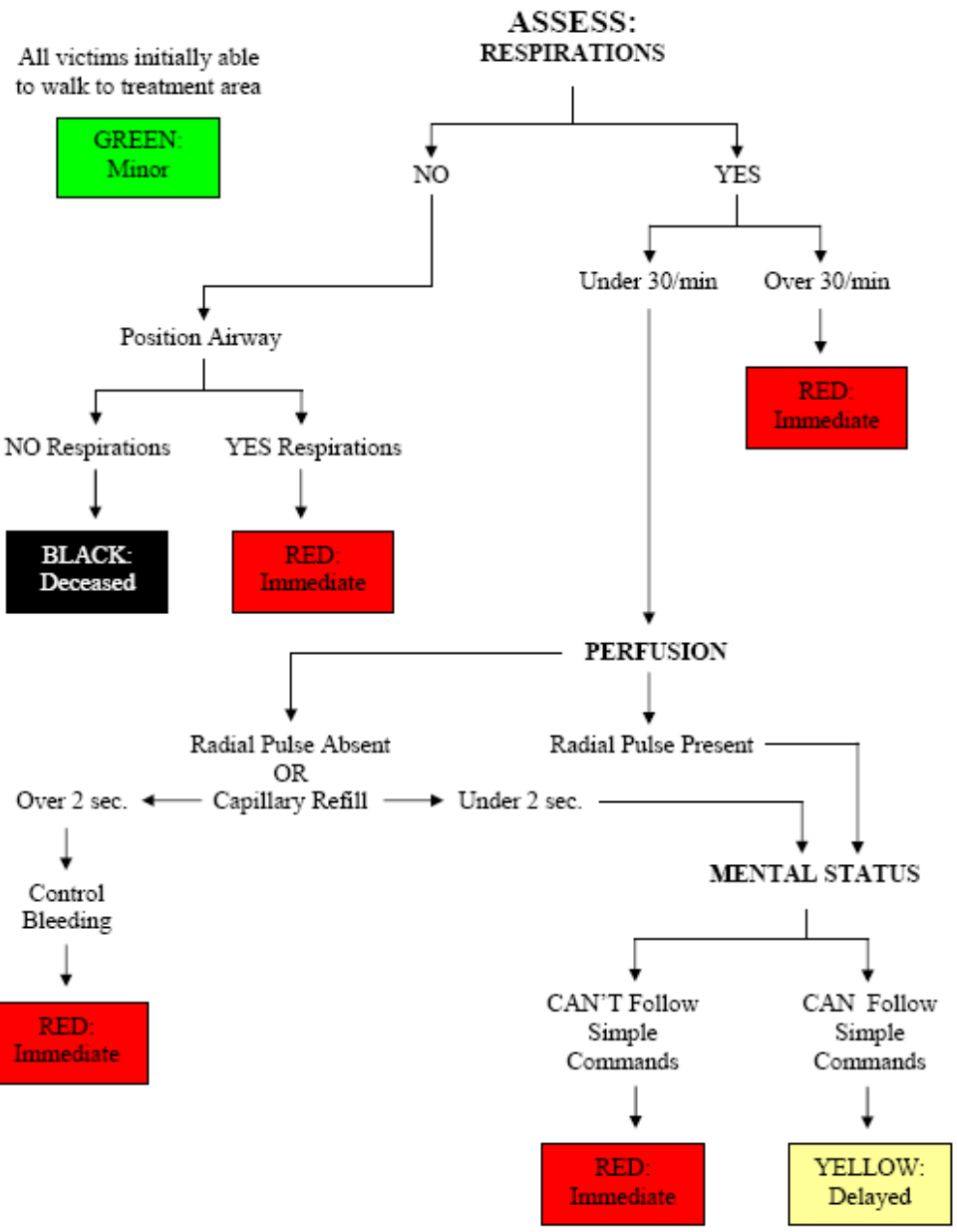
Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-060*	Effective: *June, 2009*	Revised:

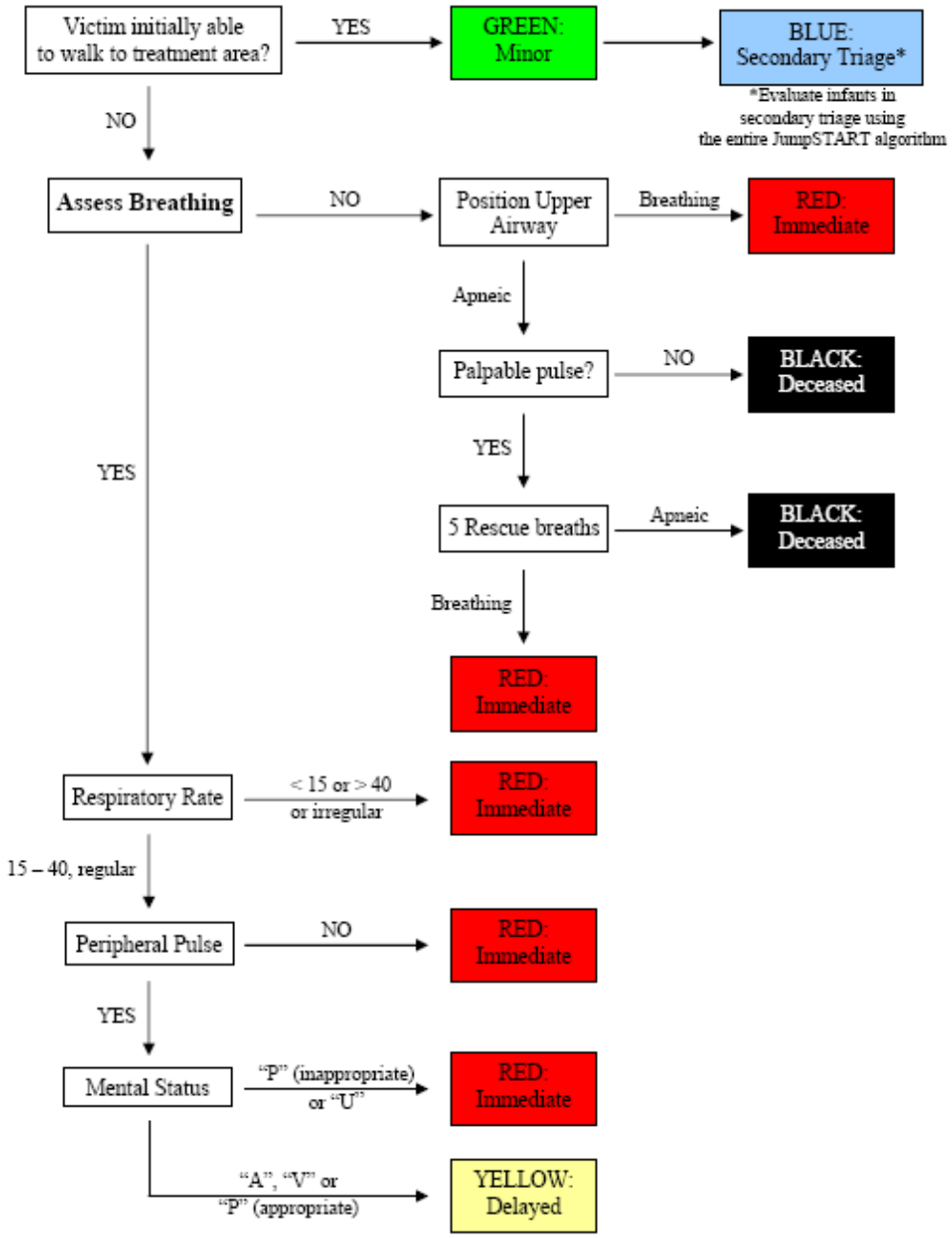
START Triage

EMR | EMT | EMT-IV | PARAMEDIC

Simple Triage and Rapid Transport (START) guidelines for patients over 8 years of age



JumpSTART guidelines for patients 8 years and younger



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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *REF-065*	Effective: *September, 2014*	Revised:

STROKE TRIAGE DESTINATION PROCEDURE

	EMT	EMT-IV	PARAMEDIC

Washington State Department of Health

State of Washington
Prehospital Stroke Triage Destination Procedure

Assess Applicability for Triage

Report from patient or bystander of one or more **sudden**:
- ☐ Numbness or weakness of the face, arm or leg, especially on one side of the body
- ☐ Confusion, trouble speaking or understanding
- ☐ Trouble seeing in one or both eyes
- ☐ Trouble walking, dizziness, loss of balance or coordination
- ☐ Severe headache with no known cause

NO → Transport per regional patient care procedures and county operating procedures where they exist

YES ↓

Perform *F.A.S.T.* Assessment

- ☐ **F**ace: unilateral facial droop?
- ☐ **A**rms: unilateral drift or weakness?
- ☐ **S**peech: abnormal or slurred?
- ☐ **T**ime last normal (determine time patient last known normal)

Yes to any one sign (Face, Arms, Speech) = YES
No to all three signs = NO

NO → Transport per regional patient care procedures and county operating procedures where they exist

YES ↓

Determine Destination

- ☐ Transport the patient to the nearest Level I, II, or III Stroke Center.
- ☐ If the nearest center is a Level III, and there's a Level I or II available with no more than 15 minutes increase in transport time, go to the nearest Level I or II Stroke Center.

See side box for additional destination considerations ⇨

↓

Limit scene time and alert destination hospital ASAP

Additional Destination Considerations:

- ☐ *Any additional transport time should not take the patient outside of the IV thrombolysis window of 3.5 hours from the time last seen normal.*
- ☐ *For patients last seen normal plus transport time ≥ 3.5 hours to ≤ 6 hours, consider transport to a Level I Stroke Center or a Level II Stroke Center with intra-arterial interventional capability.*
- ☐ *Assess availability of critical care air transport if it can help get the patient to a Stroke Center within the window of time for intervention.*
- ☐ *If unable to manage airway, consider rendezvous with ALS or intermediate stop at nearest facility capable of definitive airway management.*
- ☐ *If there are two or more Stroke Centers of the same level to choose from within the transport timeframe, patient preference, insurance, physician practice patterns, and local rotation agreements may be considered.*

DOH 346-049 October 2012

Grays Harbor/North Pacific County Area Emergency Stroke Hospitals

LEVEL	HOSPITAL	CITY	COUNTY
II	Grays Harbor Community Hospital	Aberdeen	Grays Harbor
I	Providence St. Peter's Hospital	Olympia	Thurston
III	Summit Pacific Medical Center	Elma	Grays Harbor
III	Willapa Harbor Hospital	South Bend	Pacific

Grays Harbor/North Pacific County Stroke Transport Guidelines:

The goal for patients experiencing a Stroke is a time of transport to catheter of 3.5 hours from the time of last seen normal. The following will be utilized as a guideline when determining patient transport destination in these cases.

Grays Harbor County

1. For patients located in Grays Harbor, transport to Grays Harbor Community Hospital, Aberdeen.

North Pacific County

1. For Patients in the Pacific County area of North River, transport to Grays Harbor Community Hospital, Aberdeen.
2. For all other patients in North Pacific County, transport to Willapa Harbor Hospital, South Bend.

For patient transports to Willapa Harbor Hospital, the patients are to remain on the EMS gurney and a rapid assessment is to be performed by the Emergency Room Physician to determine the need for thrombolytic therapy. Once the determination has been made on thrombolytics, the patient will continue transport to Providence St. Peter's Hospital by the initial transporting agency.

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *REF-067*	Effective: *November 2016*	Revised:

Stroke Transport – Level 1 Center

PARAMEDIC

Guidelines for the transport of an Acute Stroke Patient to Level 1 Stroke Center

ALS Treatment

1. **Report from transferring facility:**
   a. Obtain PMH, Allergies, Last known well, and current treatment(s).
   b. Establish baseline neurologic status of the patient. Presenting deficits and current.
2. **Monitor vital signs and Neuro checks:**
   a. Every 15 mins while in transport
   b. Neuro checks to include: LOC, pupils, GCS, and orolingual angioedema if the patient has received or receiving TPA.
   c. Blood pressure management recommendation for TPA patient and hemorrhagic patient. See range recommendations below.
3. **Ischemic/TIA non-TPA patients:**
   a. If SBP > 220mmHg or DBP >120 mmHg treat with **Labetalol 10mg IV** q 10 mins x 2 doses (monitor HR).
   b. If SBP < 90mmHg or DBP <50mmHg treat with IV bolus per protocol.
4. **Ischemic with or s/p TPA treatment:**
   a. If SBP >180 mm Hg or DBP >100mmHg treat with **Labetalol 10mg IV** q 10 mins x 2 doses.
   b. If SBP <105mmHg or DBP< 50mmHg treat with IV fluid bolus per protocol.
5. **Intraparencymal hemorrhage:**
   a. If SBP > 160 mmHg or DBP>110 mmHG treat with **Labetalol 10mg IV** q 10 mins x 2 doses.
6. **Subarchnoid hemorrhage:**
   a. If SBP >140 mmHG or DBP > 100mmHg treat with **Labetalol 10mg IV** q 10 mins x 2 doses.
7. **Treatment for Orolingual Angioedema:**
   a. **Stop TPA infusing immediately**
   b. Administer **Diphenhydramine 50mg IV** x 1
   c. Administer **Famotidine 20mg IV** x 1
   d. Administer **Methylprednisolone 125mg IV** x 1

e. IF symptoms do not resolve with intial treatment:
f. Administer **Epinephrine 0.3mg (0.3ml)** IM.

NOTES:

a. Monitor blood pressure within parameters to ensure the patient has adequate perfusion and decrease risk for cerebral injury.
b. Monitor for orolingual angioedema: most common during the TPA infusing and up to 2 hours post infusing but monitor for delayed reaction.
c. Monitor neuro checks q 15 mins to determine patient tolerance to treatment(s). Any neurological deterioration, new headache, nausea/vomiting, new atrial fibrillation may require call to medical control if patient has TPA infusing during transport.

REFERENCES:

1. MED-230: Labetalol
2. MED-130: Diphenhydramine
3. MED-175: Famotidine
4. MED-270: Methylprednisolone

Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *REF-070*	Effective: *August, 2004*	Revised:

TOXIDROMES CHART

EMR | EMT | EMT-IV | PARAMEDIC

SUBSTANCE	BP	HR	RR	TEMP	LOC	SIGNS AND SYMPTOMS
Adrenergic Agonists	⇧	⇧	⇧	⇧	Agitation, psychosis	Mydriasis, diaphoresis
Antihistamines	⇩	⇧	⇧	⇧	Agitation to coma, psychosis	Dry mouth,blurred vision, mydriasis, flushing
Beta-blockers	⇩	⇩			Lethargy, coma	Dizziness, cyanosis, seizures
Cholinergic Agents	BOTH	BOTH			Lethargy, coma	Salivation,urination, diarrhea, diaphoresis
Cyclic Antidepressants	⇩	⇧			Lethargy, coma	Dry mouth,blurred vision, mydriasis, flushing
Ethanol & Sedatives	⇩	⇩	⇧	⇧	Lethargy, coma	Slurred speech, ataxia, hyporflexia
Ethanol or Sedative Withdrawel	⇧	⇧	⇧	⇧	Agitation, psychosis	Mydriasis, tremors, seizures
Hallucinogens					Agitation to coma, psychosis	Mydriasis
Opiod Compounds	⇩	⇩	⇩	⇩	Lethargy, coma	Slurred speech, ataxia, hyporflexia
Opiod withdrawel	⇧	⇧			Normal to agitated	N/V, abd. cramping, hyperactivity
Salicylate Compounds	⇩	⇧	⇧	⇧	Agitation to coma, psychosis	Tinnitus, N/V, diaphoresis

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Grays Harbor Emergency Medical Services
Patient Care Procedure Protocol

No. *REF-080*	Effective: *June, 2009*	Revised: *May, 2015*

TRAUMA TRIAGE

EMR | EMT | EMT-IV | PARAMEDIC

The purpose of the trauma triage procedure is to ensure that major trauma patients are transported to the most appropriate hospital facility. If the patient is a major trauma patient, they shall be taken to the highest level trauma facility within 30 minutes transport, by either ground or air. Any air transport must be done in accordance with the GHEMS Patient Care Procedure on helicopter transport.

Area facilities and their respective designated trauma level:

- Grays Harbor Community Hospital: Level III
- St. Peters Hospital: Level III
- Summit Pacific Medical Center: Level IV
- Willapa Harbor Hospital: Level V
- Capital Medical Center: Level IV
- Mason General Hospital: Level IV
- Forks Community Hospital: Level IV

If pre-hospital personnel are unable to effectively manage the patient's airway, consider rendezvous with ALS, or intermediate stop at nearest facility capable of immediate definitive airway management.

PROCESS

Any certified EMS personnel can identify a major trauma patient and alert the trauma system. This may include requesting more advanced pre-hospital services.

STEP 1

Assess vital signs and level of consciousness using the Glasgow Coma Scale.

- Glasgow Coma Scale <13
- Systolic BP <90
  - For pediatric (<15 yrs) patients use BP <90 or capillary refill >2 seconds.
- HR >120
  - For pediatric (<15 yrs) patients use HR <60 or >120.
- Any of the above vital signs associated with signs and symptoms of shock, and/or
  - Respiratory Rate <10 or >29 associated with evidence of distress, and/or
  - For pediatric (<1 year) <20/min
  - Altered mental status

If patient meets step 1 criteria:

1. Transport patient as above.

2. Contact receiving facility – talk with ED physician to alert trauma system.
    - Advise ED that you have a "Step 1 trauma patient."

STEP 2

Assess anatomy of injury.

- Penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee; or
- Combination of burns ≥19% or involving face or airway; or
- Amputation proximal to wrist or ankle; or
- Spinal cord injury; or
- Flail chest; or
- Two or more proximal long bone fractures; or
- Crushed, de-gloved, mangled, or pulseless extremities; or
- Pelvic fractures; or
- Open or depressed skull fracture; or
- Paralysis

If patient meets step 2 criteria:

1. Transport patient as above.
2. Contact receiving facility – talk with ED physician to alert trauma system.
    - Advise ED that you have a "Step 2 trauma patient."

STEP 3

Assess mechanism of injury & evidence of high-energy impact

- Falls
    - Adults: ≥ 20 feet; or
    - Children: ≥ 10 feet or 2-3 times height of child
    - High-Risk Auto Crash: Intrusion, including roof > 12 inches occupant site; >18 inches any site; or
    - Death in same passenger compartment; or
    - Ejection (partial or complete) of patient from vehicle; or
    - Vehicle telemetry data consistent with a high risk injury
- Auto vs. pedestrian/bicyclist thrown, run over, or with significant impact (≥ 20 mph) Motorcycle, ATV accident >20 mph
- Extremes of age: < 15, > 60
- Hostile environment (extremes of heat or cold)
- Medical illness (such as COPD, CHF, renal failure, etc.)
- Second/third trimester pregnancy
- Gut feeling of medic

If patient meets step 3 criteria:

1. Contact medical control for destination decision
2. If transported as trauma patient by order of medical control, transport as above.
3. If medical control is not receiving facility, contact receiving facility – talk with ED physician to alert the trauma system.
    - Advise receiving ED that you have a "Step 3 trauma patient."

STEP 4

Assess special patient or system considerations

- Older Adults
  - Risk of injury or death after age 55
  - Systolic BP < 110 may represent shock after age 65
  - Low impact mechanisms (e.g. ground level) fall may result in severe injury
- Children
  - Triage to pediatric capable trauma center
- Anticoagulants and bleeding disorders
  - Patients with head injury are at high risk for rapid deterioration
- Burns
  - Without other trauma mechanism, triage to burn facility
- Pregnancy > 20 weeks
- Hostile environment (extremes of heat or cold)
- Medical illness (such as COPD, CHF, renal failure, etc.)
- EMS provider judgement

If patient meets step 4 criteria:

- Contact Medical Control and consider transport to a trauma center or a specific resource hospital.
- Contact receiving facility – talk with ED physician to alert trauma system.
  - Advise ED that you have a "Step 4 trauma patient."

If the patient fails to meet any of the above criteria, transport the patient to the nearest appropriate facility.

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GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOLS

-- Medication Protocols --

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-000*	Effective: *January, 2013*	Revised:

CONTROLLED SUBSTANCE POLICY

PARAMEDIC

PURPOSE:

To establish policies and procedures pertaining to the acquisition, administration and security of controlled substances in compliance with state and federal Controlled Substances Acts and rules.

POLICY:

It is the responsibility of all Grays Harbor and North Pacific County emergency medical services personnel that are required by the scope and/or application of their duties to adhere to all procedures contained in this Controlled Substance Policy. The Medical Services Officer (MSO)/Emergency Medical Coordinator (EMC), Supervisors or Chief of each licensed EMS agency is responsible for securing and maintaining the required registration with the DEA. This will be done in conjunction with the Medical Program Director (MPD), his or her physician delegate or the hospital pharmacy in compliance with applicable laws.

PROCEDURE:

A. INITIAL RECEIPT OF CONTROLLED SUBSTANCE STOCK
   1. Only the MSO/EMC or his/her designated alternate may order and transport controlled substances.
   2. Upon receipt of controlled substances, two personnel, other than the MSO/EMC or designated alternate, shall count and record the controlled substances on the *Controlled Substance Receivable Log*.
   3. The *Controlled Substance Receivable Log*, with the original copy of the *DEA Form-222* attached to it, shall be forwarded to the MSO/EMC. The MSO/EMC will forward them to the MPD via the GHEMS office.
   4. The *Controlled Substance Record* cards shall be filled out for the appropriate amount of controlled substance being added to the daily controlled substance count.

B. STORAGE OF CONTROLLED SUBSTANCES
   1. Upon receipt of controlled substances, they shall be placed into the Controlled Substances Supply Safe or Lock-Box at the appropriate

location. Access to the Controlled Substances Supply Safe or Lock-Box shall be directly limited to the department's Authorized Personnel only.

2. For ALS units, all controlled substances will be secured in a locking cabinet and/or drawer for storage within the confines of the ALS unit. Access shall be limited to the paramedic assigned to the unit and those under his/her direct supervision.

C. DAILY INVENTORY OF CONTROLLED SUBSTANCES

1. Inventory of controlled substances shall be done at the beginning of each shift by a paramedic and his/her assigned partner with the results recorded in ink on the *Controlled Substance & Monitor Daily Check* form. Discrepancies will be investigated immediately and reported as described in **Section H** of this policy.
2. During daily and monthly inventory, all controlled substances shall be inspected for an intact seal and the correct number of controlled substances on each ambulance:
    i. Each Ambulance shall have up to:
        a) Five (5) 100 mcgs Fentanyl
        b) Two (2) 10 mgs Morphine
        c) Four (4) 100 mgs Propofol
        d) Two (2) 200 mgs Succinylcholine
        e) Two (2) 10 mgs Valium
        f) Two (2) 10 mgs Vecuronium
        g) Three (3) 5 mgs Versed
3. The *Controlled Substance & Monitor Daily Check* form will be matched with the *Controlled Substance Record* cards to verify the amount of controlled substances on hand.
4. Due to constant controlled substance supply shortages; there can be fluctuations in the amount of each controlled substance that is stored on each ambulance. These fluctuations will be made known to the personnel assigned to the units and the *Controlled Substance & Monitor Daily Check* form shall reflect such changes.
5. If there is a discrepancy with the drug count on the *Controlled Substance & Monitor Daily Check* form, the Paramedic who found the discrepancy shall notify the MSO/EMC, Supervisor or Chief. They shall investigate the cause of the discrepancy and fill out the *Controlled Substance Discrepancy Report*.
    i. If the discrepancy is found to be a **Minor** discrepancy (as defined in section H), the Paramedic with the supervision of the Chief and/or Supervisor shall make the correction on the *Controlled Substance & Monitor Daily Check* form.
    ii. If the discrepancy is found to be a **Major** discrepancy (as defined in section H), the steps outlined in **Section H** shall be followed. The MSO/EMC shall be notified of each occurrence. The completed *Controlled Substance Discrepancy Report* shall be forwarded to the MSO/EMC. The MSO/EMC shall fax all completed *Controlled Substance Discrepancy Reports* to the EMS office.

6. If an irregularity or discrepancy is apparent in a controlled substance container, the Supervisor or Chief must be notified immediately. Follow all steps as outlined in **Section H** of this Policy. The MSO/EMC shall notify the MPD as soon as possible.

D. ADMINISTRATION OF CONTROLLED SUBSTANCES
   1. The administration and use of controlled substances shall be accordance with treatment guidelines in the Grays Harbor/North Pacific County Protocols.
   2. The drug, route of administration, amount, ordering physician, administering paramedic and receiving hospital shall be documented on the Patient Care Report (PCR).
   3. After each use of a controlled substance, the appropriate *Controlled Substance Record* card shall be filled out with the following information:
      i. Date of use
      ii. Patient Name
      iii. Signature of administering paramedic
      iv. Witness' initials
      v. Name of ordering Physician
      vi. Amount of drug given and amount of drug wasted
   4. The controlled substance that was used shall be replaced from the controlled substance supply safe/lock-box and the drug count shall be changed accordingly on the *Controlled Substance Record* card.

E. DISCARDING (WASTING) THE UNUSED PORTION OF A CONTROLLED SUBSTANCE
   1. Any remnants of controlled substances contained in pre-load and/or vial forms that were not administered to a patient must be discarded in the following manner:
      i. The Paramedic who administered the controlled substance remains responsible for the controlled substance until the remaining portion is discarded. The responsible Paramedic must discard the controlled substance in the presence of another crew member of the department.
      ii. All of the remaining controlled substance must be discarded. The unused portion may be discarded in a sink or on the ground.
      iii. The names of the personnel involved in the disposal process must be documented on the *Controlled Substance Record* card with the amount of controlled substance discarded.

F. OUTDATED CONTROLLED SUBSTANCE
   1. When an outdated controlled substance is found, the Paramedic shall notify the Supervisor and/or Chief.
   2. The outdated controlled substance shall be wasted in accordance with **Section E** of this policy.
   3. The *Broken/Expired/Missing/Stolen Controlled Substance Report* shall be filled out accordingly and forwarded to the MSO/EMC.
   4. The changes to the *Controlled Substance & Monitor Daily Check* form shall be made accordingly.
   5. The *Controlled Substance Record* card shall be filled out appropriately.

G. DOCUMENTION

1. Controlled substance information, purpose and use.
    i. Federal Law requires that possession of controlled substances be tracked from the manufacturer to the patient receiving the medication. Accurate record keeping is essential, as every milligram of a controlled substance must be traceable and accounted for. Therefore, the chain of responsibility must be recorded by signature at each step of use and/or transfer of controlled substances.
    ii. A Paramedic, by his or her acceptance of the possession of a controlled substance, thereby accepts complete responsibility for the security, handling, and use of the controlled substance. Discrepancies and/or failure to follow procedures for handling, possession, use or disposal of controlled substances, as outlined in this policy, shall require the immediate notification of the Supervisor and MSO/EMC.
2. Random audits shall be performed for quality control purposes. All logs and any controlled substance materials shall be made available to the individual performing the audit. The individual performing the audit shall utilize the Grays Harbor & N. Pacific County *Controlled Substance Audit Report*. Once the audit is performed, the *Controlled Substance Audit Report* shall be forwarded to the MSO/EMC. If discrepancies are found, the Supervisor and MSO/EMC shall be notified and the proper steps taken to investigate the discrepancy as noted in **Section H**.
3. Logs and Forms
    i. All controlled substance forms shall be done in ink and forwarded to the MSO/EMC upon completion.
    ii. Hard copies of all controlled substance documents shall be stored in a locked file cabinet for no less than 2 years.
    iii. Records regarding controlled substances shall be made available to the MPD and appropriate federal, state and local law enforcement agencies upon request: all of whom will be responsible for maintaining confidentiality of information contained therein.
    iv. *Controlled Substance Record* cards shall be photocopied and placed with all other controlled substance documentation. The original *Controlled Substance Record* card shall be turned in the Grays Harbor EMS office.

H. CONTROLLED SUBSTANCE DISCREPANCIES

1. Strict adherence to the controlled substance policy will prevent discrepancies. Any discrepancy involving controlled substances shall result in the immediate mandatory notification of the Supervisor, MSO/EMC and MPD. Should a discrepancy occur, it shall be classified as either a **Minor Discrepancy** or a **Major Discrepancy**. These discrepancies are defined as follows:
    i. **Minor Discrepancies** are defined as incomplete or omitted documentation on a PCR, *Controlled Substance Record* card,

Controlled Substance & Monitor Daily Check form, or other controlled substance written documentation or a witnessed accidental breakage of a controlled substance. Also, an error made opening the incorrect controlled substance prior to administering the controlled substance.

a) The Supervisor shall determine the appropriate action to resolve minor discrepancies.
b) The Supervisor shall notify, during the shift, the MSO/EMC.
c) All minor discrepancies shall be noted and tracked by using one or both forms:
    a. Grays Harbor & N. Pacific County *Controlled Substance Discrepancy Report*.
    b. Grays Harbor & N. Pacific County *Broken/Expired/Missing/Stolen Controlled Substance Report*
d) The MSO/EMC will report all major/minor discrepancies to the Chief and the Grays Harbor Medical Program Director. All discrepancies shall be tracked by both the department and the Grays Harbor Medical Program Director.

ii. **Major Discrepancies** are defined as accidental loss of a controlled substance, an error in the administration of a controlled substance, theft thereof or tampering (open packaging, broken seals, or broken locks). In the event of a major discrepancy, the following procedure shall take place:

a) The employee(s) discovering the discrepancy shall immediately notify the Supervisor.
b) Under no circumstances may any employee responsible for the controlled substances involved in a discrepancy be released from duty until the Supervisor approves such release.
c) All evidence must be retained for the Supervisor's inspection.
d) The Supervisor will conduct an immediate investigation.
e) The employee(s) involved must complete a *Controlled Substance Discrepancy Report* and a *Broken/Expired/Missing/Stolen Controlled Substance Report*. Copies of such forms shall be attached to the Controlled Substances Policy and included in the final report. All on-duty and/or off-going personnel must submit all patient care reports for entire shift prior to the discovery of the discrepancy.
f) The Supervisor shall notify the MSO/EMC as soon as possible.

g) A complete report of the discrepancy including its resolution must be completed and submitted to the MSO/EMC and MPD for review.
h) The MSO/EMC will report all major/minor discrepancies to the Chief and the Grays Harbor Medical Program Director. All discrepancies shall be tracked by both the department and the Grays Harbor Medical Program Director.
i) Under the direction of the Chief and the MPD, the MSO/EMC shall notify the appropriate Law Enforcement Agency for "suspected" criminal activity involving a controlled substance.
    a. Criminal activity shall include, but is not limited to:
        i. Theft of a controlled substance
        ii. Unauthorized tampering of a controlled substance container
        iii. Unauthorized use of a controlled substance
        iv. Unauthorized distribution of a controlled substance
        v. Any act that reflects a willingness to deceive or misrepresent facts and information that may pertain to an ongoing controlled substance investigation
    b. Individuals involved may be subjected to criminal prosecution under applicable laws and/or possible disciplinary action through their department.

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *MED-001*	Effective: *August, 2012*	Revised:

MEDICATION LIST

Following is a list of medication that are to be carried on all GHEMS Medic Units.

*Denotes medications to be carried for use by EMTs.

Acetaminophen (MED-010)	*Acetylsalicylic Acid – ASA (MED-020)
*Activated Charcoal (MED-030)	Adenosine (MED-040)
Afrin (MED-050)	Albuterol (MED-060)
Amiodarone (MED-070)	Atropine Sulfate (MED-080)
Calcium Chloride (MED-090)	Dextrose 50% (MED-100)
Diazapam (MED-110)	Diltiazem (MED-120)
Diphenhydramine (MED-130)	Dopamine HCL (MED-140)
Duo-Neb (MED-150)	Epinephrine: 1,1000/1:10,000 (MED-160)
*Epinephrine for EMT: 1:1000 (MED-170)	Fentanyl (MED-180)
Furosemide (MED-190)	Glucagon (MED-200)
Haloperidol (MED-210)	**Ipratropium Bromide (MED-220)
Labetalol (MED-230)	Lidocaine 1% (MED-240)
Lidocaine 2% (MED-250)	Magnesium Sulfate (MED-260)
Methylprednisolone (MED-270)	Midazolam HCL (MED-280)
Morphine Sulfate (MED-290)	Naloxone (MED-300)
Nitroglycerin (MED-310)	*Oral Glucose (MED-320)
*Oxygen (MED-330)	Oxytocin (MED-340)
Propofol (MED-360)	Sodium Bicarbonate (MED-370)
Succinylcholine (MED-380)	Tetracaine (MED-400)
Thiamine (MED-410)	Vasopressin (MED-420)
Vecuronium (MED-430)	Xylocaine Jelly (MED-440)
Zofran (MED-450)	

**Duo-Neb (MED-150) may be carried in place of Ipratropium Bromide (MED-220).

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *MED-002*	Effective: *August, 2012*	Revised:

ALTERNATIVE MEDICATIONS

From time to time there may be shortages in various medications carried by GHEMS units. The following is a list of approved alternatives, in order of preference, which can be utilized in times of shortage of the primary medications.

RAPID SEQUENCE INTUBATION/SEDATION		
MEDICATION	APPROVED USE	ALTERNATIVES
Succinylcholine	Induce paralysis during RSI.	IV/IO Only 1. **Rocuronium** (MED-336): 1-1.2 mg/kg 2. **Vecuronium** (MED-430): 0.3-0.4 mg/kg
Vecuronium	Maintain sedation after intubation.	IV/IO Only 1. **Rocuronium** (MED-336): 1-1.2 mg/kg q 20-30 min 2. **Pancuronium** (MED-345): 0.015-0.1 mg/kg q 30-60 min.

ANTICONVULSANT/SEDATION		
MEDICATION	APPROVED USE	ALTERNATIVES
Diazepam (Valium)	Anticonvulsant; Sedation during RSI except head injury & trauma; Excited delirium or severe agitation; Sedation prior to cardioversion.	1. **Midazolam** (MED-280): 3-5 mg IV/IO, IM; *Peds: 0.1-0.2 mg/kg IV/IO, IM* 2. **Lorazepam** (MED-255): 1-2 mg IV/IO, IM; *Peds: 0.1 mg/kg IV/IO, IM*
Midazolam (Versed)	Anticonvulsant; Sedation during RSI; Excited delirium or severe agitation; Sedation prior to cardioversion	1. **Lorazepam** (MED-255): 1-2 mg IV/IO, IM; *Peds: 0.1 mg/kg IV/IO, IM, PR* 2. **Diazepam** (MED-110): 5-10 mg IV/IO, IM, PR; *Peds: 0.2-0.5 mg/kg IV/IO*

PAIN MANAGEMENT		
MEDICATION	APPROVED USE	ALTERNATIVES
Morphine	Acute pain control	1. **Fentanyl** (MED-180): 25-50 mcg IV/IO, IM max 3 mcg/kg; *Peds: 1-2 mcg/kg IV/IO, IM max of 3 mcg/kg* 2. **Dilaudid** (MED-215): 0.2-0.6 mg q 2-3 hrs.; give slowly over 2-3 min.; *Peds: 0.015 mg/kg IV/IM q 4-6 hrs.*
Fentanyl	Acute pain control	1. **Morphine** (MED-290): 5-10 mg IV/IO, IM q 5 min prn; *Peds: 0.1-0.2 mg/kg IV/IO, IM* 2. **Dilaudid** (MED-215): 0.2-0.6 mg q 2-3 hrs.; give slowly over 2-3 min.; *Peds: 0.015 mg/kg IV/IM q 4-6 hrs.*

CARDIAC MEDICATIONS		
MEDICATION	APPROVED USE	ALTERNATIVES
Atropine	Bradycardia	1. **Transcutaneous Pacing** (PROC-310) 2. **Epinephrine** (MED-160): 2-10 mcg/min IV infusion; *Peds: 001 mg/kg/min.* 3. **Dopamine** (MED-140): 2-10 mcg/kg/min
Amiodarone	Ventricular dysrhythmias	1. **Lidocaine** (MED-240): 1-1.5 mg/kg, repeat 0.5-0.75 mg/kg prn max 3 mg/kg; *Peds: 1 mg/kg max 3 mg/kg* 2. **Procainamide** (MED-347): 20 mg/min IV/IO, max 17 mg/kg; *Peds: 15 mg/kg IV/IO over 30-60 mins.*
Lidocaine	Ventricular dysrhythmias	1. **Amiodarone** (MED-070): a. Recurrent V-Fib/Pulseless V-Tach: 300 mg IV/IO, repeat 150 mg x1 prn b. V-Tach/Wide Complex Tach: 150 mg over 10 mins IV/IO x2 prn *c. Peds: 5 mg/kg IV/IO* 2. **Procainamide** (MED-347): 20 mg/min IV/IO, max 17 mg/kg; *Peds: 15 mg/kg IV/IO over 30-60 mins.*

Diltiazem (Cardiazem)	Narrow complex supraventricular tachycardia, A-fib/flutter with rapid ventricular response.	1. **Verapamil** (MED-435): 2.5-5.0 mg IV repeat prn 5-10 mg in 15-30 mins to max of 20 mg; *Peds: 0.1-0.3 mg/kg max 5 mg, repeat x1 prn max 10 mg*. 2. **Propranolol** (MED-363): 0.5-1 mg/min, repeat prn max 0.1 mg/kg; *Peds: 0.01-0.1 mg/kg over 10 mins.*
Dopamine	Cardiogenic shock; hypotension not related to hypovolemic.	1. **Epinephrine** (MED-160): 2-10 mcg/min IV infusion; *Peds: 001 mg/kg/min.*
Furosemide (Lasix)	Pulmonary edema; Hypertensive crisis.	1. **Nitroglycerin** (MED-310): 0.4 mg S**L**
Epinephrine (1:10,000)	Aystole; PEA	1. **Vasopressin** (MED-420): 40 units IV/IO q 20 min.

ALLERGIC REACTIONS		
MEDICATION	APPROVED USE	ALTERNATIVES
Diphenhydromine (Benadryl)	Moderate to severe anaphylaxis.	1. **Hydroxyzine (**MED-217): 25-50 mg IM; *Peds: 0.1 mg/kg* 2. **Famotidine** (MED-175): 20mg IV, *Peds: 0.25 mg/kg IV*
Epinephrine	Severe anaphylaxis	1. Epinephrine drip, investigate other packaging options (multi-dose vials of 1:10,000, single dose vials, etc.) 2. Epi-Pen

DIABETIC EMERGENCIES		
MEDICATION	APPROVED USE	ALTERNATIVES
50% Dextrose (D_{50})	Hypoglycemia	1. **Glucagom (**MED-200): 1mg SC, IM, IV; *Peds: 0.5mg SC, IM, IV*

ANTIEMETIC		
MEDICATION	APPROVED USE	ALTERNATIVES
Zofran	Anriemetic	1. **Prochlorperazine (**MED-350): 2-10mg IM, 2.5-5mg slow IV *Peds: 0.132mgmk IM*

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Grays Harbor Emergency Medical Services
Patient Care Protocol Reference

No. *MED-003*	Effective: *August 2012*	Revised:

Analgesics: Opioid Equivalency

PARAMEDIC

	IV/SC/IM	*PO*
Opioid Agonists		
Morphine	10 mg q3-4h	30 mg q3-4h
Codeine	60 mg q2h	60 mg q3-4h
Fentanyl	0.1 mg q1h	n.a.
Hydromorphone (Dilaudid)	1.5 mg q3-4h	6 mg q3-4h
Hydrocodone	n.a.	10 mg q3-4h
Meperidine§	100 mg q3h	n.r.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-010*	Effective: *August, 2004*	Revised:

PARAMEDIC

ACETAMINOPHEN	
Trade Names:	Tylenol
Class:	Analgesic, Antipyretic, NSAID
Mechanism of Action:	Elevates the pain threshold in the CNS and acts on the hypothalamic thermoregulatory centers.
Indications:	o Fever o Moderate Pain
Contraindications:	o Hypersensitivity
Adverse/Side Affects:	o Dizziness o Lethargy o N/V o Abdominal Pain o Diarrhea Anorexia o Diaphoresis o Chills o Elevated Liver Function.
Drug Interactions:	Alcohol may increase risk of hepatoxicity with chronic co-administration with many other drugs.
Dosage:	**Adult**: 325-650mg PO q 4-6 hours 650mg PR q 4-6 hours **Peds**: 15mg/kg q 4-6 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-020*	Effective: *August, 2004*	Revised:

EMT | **EMT-IV** | **PARAMEDIC**

ACETYLSALICYLIC ACID (ASA)	
Trade Names:	Aspirin
Class:	Platelet Aggregator Inhibitor Anti-inflammatory
Therapeutic Action:	Prevents blood clot formation (specifically in coronary arteries) Decreases inflammation, Controls pain and decreases fever (antipyretic).
Mechanism of Action:	Prevents platelet clumping and blood clot formation by irreversible changes in platelet shape and function. The pain, anti-inflammatory, and antipyretic effects are due to blocking prostaglandins (Chemical Messengers).
Indications:	o Chest Pain consistent with AMI
Contraindications:	o Hypersensitivity to Aspirin
Adverse/Side Affects:	o Excessive use may cause GI irritations and bleeding.
Drug Interactions:	Adverse reactions and effects may be increased with use of other NSAID's.
Dosage:	160-325mg orally, chewed or swallowed with small amount of water after onset of chest pain

Note: Not recommended for children because it has been linked with Reye's syndrome.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-030*	Effective: *August, 2004*	Revised:

EMT | **EMT-IV** | **PARAMEDIC**

ACTIVATED CHARCOAL	
Trade Names:	Insta-Char, Sorbitol, Acti-Char, Liqui-Char. Acti-Dose
Class:	Adsorbent
Therapeutic Action:	Adsorbs poisonous compounds, Prevents GI tract absorption
Mechanism of Action:	Binds many poisons and chemicals to its surface while in GI tract.
Indications:	o Poisonings at direction of poison control if possible. o Overdoses at direction of poison control if possible
Contraindications:	o Petroleum Distillates o Caustic Acids and Alkalis o GI Bleeding o Protracted Vomiting o Altered Level of Consciousness o Cyanide Poisoning
Adverse/Side Affects:	o Aspiration o N/V o Diarrhea o Constipation
Drug Interactions:	Ipecac may be rendered ineffective.
Dosage:	**Adult:** 25-30gms in tap water 1gm/kg in tap water to form slurry **Peds:** 10-30gm in tap water
Onset:	Immediate
Duration:	Continual while in GI tract

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-040*	Effective: *August, 2004*	Revised:

PARAMEDIC

ADENOSINE	
Trade Names:	Adenocard
Class:	Antidysrhythmic
Therapeutic Action:	Terminates SVT dysrhythmias
Mechanism of Action:	Slows conduction of electrical impulses through the Sinoatrial (SA) and Atroventricular (AV) nodes. Interrupts reentry pathways such as WPW
Indications:	o Unstable narrow complex SVT or PSVT
Contraindications:	o 2nd and 3rd degree heart blocks o Sick Sinus Syndrome o Hypersensitivity to Adenosine
Adverse/Side Affects:	o Transient flushing o Dyspnea o Chest pain o Bradycardia o Headache o Hemodynamic instability o Brief period of asystole o Dizziness o N/V
Drug Interactions:	o Aminophylline inhibits effects by blocking receptor sites, dose may be increased o Tegretol (Persantine) prolongs effects by blocking the uptake of Adenosine.
Dosage:	**Adult:** 6mg rapid IVP with 10-20ml NS rapidly followed. If no change in 2 minutes, give 12mg rapid IVP. If no change in 2 minutes repeat 12mg dose IVP. **Peds:** 0.1mg/kg may repeat with 0.2mg/kg up to 12mg max single dose.
Onset:	Rapid
Duration:	5-10 seconds

Note: Safe to use with WPW (Wolf-Parkinson-White), whereas Diltiazem is not.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-050*	Effective: *August, 2004*	Revised:

PARAMEDIC

AFRIN	
Trade Names:	None
Class:	Adrenergic Sympathomimetic
Therapeutic Action:	
Mechanism of Action:	Unknown. Causes vasoconstrictions of the smaller arterioles in the nasal passages, which lasts up to 12 hours.
Indications:	o Preparation for nasotracheal intubations. Control of epistaxis.
Contraindications:	o Known hypersensitivity to drug.
Adverse/Side Affects:	o Headache o Drowsiness o Insomnia o Palpitations o Hypertension o Burning, stinging, or sneezing may occur if recommended dosage is exceeded o The use of the dispenser by more than on patient may spread infection. o Rebound nasal congestion or irritation.
Drug Interactions:	
Dosage:	**Adult:** 2-3 sprays per nostril **Peds:** Not recommended for Children under 6 years old.
Onset:	Less than 5 minutes
Duration:	Less than 12 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-060*	Effective: *August, 2004*	Revised: *May, 2015*

PARAMEDIC

ALBUTEROL	
Trade Names:	Proventil, Ventolin
Class:	Bronchodilator
Therapeutic Action:	Dilates bronchial smooth muscles
Mechanism of Action:	Albuterol is a Sympathomimetic agent which primarily the B2 receptors on the bronchial tree.
Indications:	o Bronchospasms associated with COPD (Bronchitis, Emphysema) o Hyperkalemia o Asthma wheezes associated with toxic inhalations.
Contraindications:	o Tachydysrhythmias o Known hypersensitivity to Albuterol. o Caution with hypertension, angina, and diabetes.
Adverse/Side Affects:	o Palpitations o Tachycardia o Tremors o Nervousness o Dizziness o Headache o Restlessness o Anxiety o Nausea and Vomiting.
Drug Interactions:	
Dosage:	**Adult:** 2.5mg of 0.5% solution in 3ml, PRN. **Peds:** wt. > 20kg: 2.5mg of 0.5 solution in 3ml, PRN wt. < 20kg: 0.1 to 0.15mg/kg by nebulization, PRN *Note: 0.02 to 0.03mL/kg of 5mg/mL solution with normal saline to make 3mL total in nebulizer; maximum single dose, 2.5mg*
Onset:	5-15 minutes
Duration:	3-4 hours

Note: **EMT** **EMT-IV**

May only *assist* patient with that patient's own Metered Dose Inhaler

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-070*	Effective: *August, 2004*	Revised: *June, 2009*

PARAMEDIC

AMIODARONE	
Trade Names:	Cordarone
Class:	Antiarrythmic
Therapeutic Action:	Prolongs action potential and refractory period. Reduces ventricular dysrhythmias and raises fibrillation threshold
Mechanism of Action:	Class III antiarrhythmic agent which inhibits adrenergic stimulation (alpha- and beta-blocking properties), affects sodium, potassium, and calcium channels, prolongs the action potential and refractory period in myocardial tissue; decreases AV conduction and sinus node function
Indications:	o Shock Refractory VF/Pulseless VT o Polymorphic VT/Wide complex tachycardia of uncertain origin. o Control of hemodynamically stable VT when cardioversion is unsuccessful.
Contraindications:	o Patients with hypersensitivity to Cordarone o Patients with cardiogenic shock o Marked Sinus Bradycardia o 2nd & 3rd degree AV blocks unless a pacemaker is available.
Adverse/Side Affects:	o Vasodilatation o Hypotension
Drug Interactions:	Digitalis, Warfarin, Procainamide, Fentanyl
Dosage:	**Adult:** *Cardiac Arrest: Pulseless VF or VT* 300mg IVP, consider repeating 150mg in 3-5 minutes. Max dose – 2.2g IV in 24hours. **Route of Delivery – IV** Use NS or D5W – Run Wide Open – Push 300mg – Flush Line **Route of Delivery – Saline Lock** Mix 300mg Amiodarone with 10cc of NS or D5W – Rapid IVP **Peds:** *Cardiac Arrest: Pulseless VF or VT* 5 mg/kg (maximum 300 mg/dose) rapid I.V. bolus or I.O.; repeat up to a maximum daily dose of 15 mg/kg. (**Note:** Maximum recommended daily dose in adolescents is 2.2 g.)
Onset:	Immediate
Duration:	Up to 40 days
Caution:	May produce vasodilatation and hypotension. May have negative inotropic effects and prolong QT interval. Renal failure – Terminal elimination is long (Half-Life lasts up to 40 days)

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-080*	Effective: *August, 2004*	Revised: *June, 2009*

PARAMEDIC

ATROPINE SULFATE	
Trade Names:	None
Class:	Anticholinergic
Therapeutic Action:	Increases rate of SA node discharge and enhances conduction through the AV junction
Mechanism of Action:	Blocks or antagonizes the effects of acetylcholine in sweat glands, smooth and cardiac muscle. Acetylcholine is a parasympathetic neurotransmitter, which is released into the synapses with stimulation of the Vagus (10th Cranial Nerve). This release of Ach decreases heart rate and velocity through the junction. Atropine blocks the receptors for Ach, thus blocking effects on the cardiac muscle, causing an increase in heart rate. Vagal stimulation can be caused by ischemic damage or parasympathomimetic overdose.
Indications:	o Symptomatic Bradycardia o 1st & 2nd Type 1 AV blocks o Narrow Complex 2nd and 3rd degree AV blocks o o Cholinergic Poisoning (Organophosphate and Carbamate)
Contraindications:	o Tachycardia
Adverse/Side Affects:	o Blurred vision o Dry mouth o Headache o Pupillary dilatation o Tachycardia
Drug Interactions:	Amantadine, Quinidine, Phenothiazines, Tricyclic Antidepressants
Dosage:	**Adult:** *Symptomatic Bradycardia* 0.5mg – 1mg IVP, q 3 – 5 minutes to maximum dose of 0.04mg/kg or 3mg **Adult:** *Cholinergic Poisoning* 2mg IV q 15 minutes **Peds:** *Symptomatic Bradycardia pre-medication for RSI* 0.02mg/kg rapid IVP to a maximum single dose of 0.5mg in child/1mg in adolescent. Maximum total dose of 1mg in child/2mg in adolescent.
Onset:	Rapid
Duration:	2-6 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-090*	Effective: *August, 2004*	Revised:

PARAMEDIC

CALCIUM CHLORIDE	
Trade Names:	None
Class:	Electrolyte, Elemental Ion
Therapeutic Action:	Facilitates conduction in tissues such as myocardium, muscle and nerves. Increases myocardial contraction strength.
Mechanism of Action:	Increases calcium levels in blood and tissues.
Indications:	• Acute Hyperkalemia (renal failure with CV compromise). • Acute Hypocalcemia • Calcium Channel Blocker toxicity (hypotension, dysrhythmias) • Refractory hypotension secondary to Diltiazem administration. • Black Widow spider bite • Chroming • Glass Etching
Contraindications:	• Digitalis use and toxicity
Adverse/Side Affects:	• Cardiac Arrest • Dysrhythmias and Bradycardias • Nausea and Vomiting • Syncope and Tissue Necrosis
Drug Interactions:	Precipitates with NaCHO3 and Aminophylline
Dosage:	**Adult:** *Hypocalcemia/Hyperkalemia/Spider Bite* 500-1000mg/kg of a 10% hypocalcemia, hyperkalemia and black widow bites. If no response after 10 minutes may repeat the dose **Adult:** *Refractory Hypotension* 100mg IV for hypotension secondary to Diltiazem administration. **Peds:** 20-25mg/kg of a 10% solution, up to 500mg slow IVP.
Onset:	5-15 minutes
Duration:	Dose dependent up to 4 hours after IV administration.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-100*	Effective: *August, 2004*	Revised: *September, 2013*

PARAMEDIC

DEXTROSE 50% (D50W)	
Trade Names:	None
Class:	Nutrient
Therapeutic Action:	Increases blood glucose levels
Mechanism of Action:	Adds glucose to circulating blood volume
Indications:	• Hypoglycemia • Coma or Altered Level of Consciousness of Unknown origin • Status Epilepticus • Refractory Cardiac Arrest
Contraindications:	• Intracranial Bleed • CVA
Adverse/Side Affects:	• Wernecke's Encephalopathy in alcoholics (thiamine deficiency). Tissue necrosis • Korsakoff's
Drug Interactions:	None significant
Dosage:	**Adult:** 50ml of a 50% solution through a flowing IV line **Peds:** 0.5mg/kg slow IV. Mix 1:1 for D25W
Onset:	<1 minute
Duration:	Depends on degree of hypoglycemia

Note: in the event of a shortage of D_{50}, D10 may be substituted and administered as per protocol.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-110*	Effective: *August, 2004*	Revised:

PARAMEDIC

DIAZEPAM	
Trade Names:	Valium
Class:	Benzodiazepine
Therapeutic Action:	Suppresses seizure activity in motor cortex. CNS depressant and muscle relaxant. Suppresses anxiety and tremors with DT's, mild amnesic. Sedative effects during cardioversion and TCP.
Mechanism of Action:	Binds to specific benzodiazepine receptors in the CNS, which inhibits neuronal transmissions.
Indications:	• Acute Anxiety and tremors in alcoholic delirium tremens. • Grand Mal seizures • Premedication for cardioversion, TCP and RSI • Acute Anxiety states and Cocaine toxicity • Severe back or muscle spasms • Excited delirium
Contraindications:	• Hypersensitivity to Benzodiazepines • CNS depression secondary to head injuries or mind altering drugs, Pregnancy (mother comes first) • Respiratory depressed patients • Shock • Patients with alcohol and depressant drugs on board.
Adverse/Side Affects:	• Hypotension • Respiratory depression or arrest • Confusion • N/V • Coma • Periods of excitement • Reflex tachycardia.
Drug Interactions:	Potentiates effects of other CNS depressing medications. May react with other medications in IV line. Barbiturates, Alcohol, and other narcotics will increase effects of benzodiazepines.
Dosage:	**Adult:** *Seizures* 1-5mg IV, IM, or ET as needed. **Adult:** *Anxiety* 2-5mg IM, slow IV **Adult:** *Premedication* 5-10mg slowly IV, IM or ET; 5-10 prior to TCP/Cardioversion or Succinylcholine use. **Peds:** *Seizures* 0.1 – 0.3mg/kg IV, IO, or ET (no faster than 1mg/min) 0.3 – 0.5mg/kg rectally q 10 – 15min total 3 doses
Onset:	IV: 1 – 5min IM: 15 – 30min, ET rapidly
Duration:	IV: 15min – 1 hour, IM: 15min – 1 hour, ET 15min – 1 hour

NOTE: DOSE SHOULD BE REDUCED BY 50% IN THE ELDERLY

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-120*	Effective: *August, 2004*	Revised:

PARAMEDIC

DILTIAZEM	
Trade Names:	Cardizem
Class:	Calcium Channel Blocker
Therapeutic Action:	Slows conduction through AV node and dilates coronary and peripheral arteries.
Mechanism of Action:	Slows calcium ion influx during myocardial depolarization.
Indications:	• Atrial fibrillation/flutter with rapid ventricular response • PSVT and SVT • Multi-Focal Atrial Tachycardia
Contraindications:	• Sick Sinus Syndrome, 2nd & 3rd degree AV blocks • Hypotension and Cardiogenic Shock • WPW, Ventricular or Wide Complex Tachycardias • Beta Blocker Use • Pulmonary Congestion • In same IV line as Lasix (Furosemide)
Adverse/Side Affects:	• AV Blocks • Bradycardia • Ventricular Dysrhythmias • Chest Pain • CHF • Dyspnea • Dizziness • Syncope • Nausea & Vomiting
Drug Interactions:	Increases effects of Beta-blockers, Digoxin, Lithium, Tegretol, Cyclosporine and other Calcium channel blockers. Increased effects by Cimetidine (Tagamet)
Dosage:	**Adult:** 0.25mg/kg IV slowly over 2 minutes. If no effect 0.35mg/kg 15 minutes later given over 2 minutes. *Drip:* 25mg into 50cc NS (0.5mg/cc) **Peds:** Not recommended
Onset:	2 – 5 minutes
Duration:	1 – 3 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-130*	Effective: *August, 2004*	Revised:

PARAMEDIC

DIPHENHYDRAMINE HCL	
Trade Names:	Benadryl
Class:	Antihistamine
Therapeutic Action:	Prevents responses mediated by histamine such as vasodilatation, bronchospasm, capillary permeability and edema.
Mechanism of Action:	Blocks H1 (bronchial & gastric constrictions) and H2 (peripheral vascular dilation & gastric secretions) receptor sites.
Indications:	• Acute Urticaria, • Anaphylactic and Allergic Reactions with Epinephrine • Extra pyramidal (dystonic) reactions to phenothiazines (thorazine, haldol, compazine, phenergan, raglan, mellaril)
Contraindications:	• Asthma & COPD (thickens secretions) • Anticholinergic symptoms (flushing, dilated pupils, dry mucous membranes) • MAO inhibitor use • Narrow Angle Glaucoma • CNS Depression
Adverse/Side Affects:	• Hypotension • Headache • Tachycardia • Sleepiness • Palpitations • Blurred Vision • Dizziness
Drug Interactions:	Potentiates other CNS depressants (narcotics & alcohol) and Anticholinergic medications **Caution: Incompatable with Methylprednisolone; Flush between drugs.**
Dosage:	**Adult:** 25 – 50mg IV or IM **Peds:** 1-2mg/kg IV or IM to Max 50mg
Onset:	1 – 3 hours
Duration:	6 – 12 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-140*	Effective: *August, 2004*	Revised:

PARAMEDIC

DOPAMINE HCL	
Trade Names:	Intropin, Dopastat
Class:	Sympathomimetic Amine
Therapeutic Action:	Increased renal and gastric flow; Increases BP; Mild Chronotropy
Mechanism of Action:	Alpha – 1; Beta 1; Dopaminergic receptor stimulation
Indications:	• Correct hypoperfusion (BP<90mmHg) after fluid resuscitation and rate problems have been corrected. • Cardiogenic Shock • Septic Shock • Neurogenic Shock
Contraindications:	• Hypovolemic Shock • Hypotensive CHF with Pulmonary Edema (PVR)
Adverse/Side Affects:	• Chest Pain • Palpitations & Tachycardia • Nausea & Vomiting • Dyspnea & Headache • Sluffing
Drug Interactions:	Inactivated by alkaline medications (CaCl, NaCHO3) Reduce to 1/10th dose when on MAO inhibitors Dilantin + Dopamine = Hypertension
Dosage:	**Adult/Peds:** 2 – 20 mcg/kg/min infusion 2 – 5 mcg/kg/min – Renal/Gastric Effects 5 – 10 mcg/kg/min – Cardiac Effects 10 – 20 mcg/kg/min – Vasopressor Effects *1600mcg/cc – Standard Mixture*
Onset:	2 – 4 Minutes
Duration:	10 – 20 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-150*	Effective: *August, 2008*	Revised: *June, 2009*

PARAMEDIC

DuoNeb

GHEMS Agencies may carry DuoNeb in lieu of Ipratropium Bromide.

See Medication Protocols for Albuterol (MED-060) and Ipratropium Bromide (MED-220).

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-160*	Effective: *August, 2004*	Revised:

PARAMEDIC

EPINEPHRINE	
Trade Names:	Adrenalin
Class:	Catecholamine
Therapeutic Action:	Vasoconstriction, Bronchial Dilation, Inotropic & Chronotropic Effects
Mechanism of Action:	Sympathomimetic which stimulates the Alpha and Beta receptors
Indications:	• V-Fib/Pulseless V-Tach • Asystole/PEA • Bronchospasms • Anaphylaxis • Symptomatic Bradycardia
Contraindications:	• Suspected IC bleed • Bronchospasms with CAD
Adverse/Side Affects:	• Palpitations • Ventricular Ectopy • Tachycardia • Anxiety • Headache • Nausea & Vomiting
Drug Interactions:	Antagonizes the effects of vasodilators, beta-blockers, and anti-diabetic medications. Inactivated by Aminophylline, CaCl, CaGluconate, NaCHO3, Valium
Dosage:	**Adult:** *VF/Pulseless VT/Asystole/PEA* 1mg of 1:10,000 IV q 3-5 minutes **Adult:** *Bradycardia* 2-10mcg/min by hemodynamics Mix 1mg in 250cc = 4mcg/cc **Adult:** *Bronchospasm/Anaphylaxis* 0.1-0.5mg of 1:1,000 SQ/IM, may repeat in 5 min. If no response or rapidly deteriorating give 0.25-0.5mg of 1:10,000 slow IV. ET Dose 2-2.5 times IV dose. **Peds:** *VF/Pulseless VT/Asystole/PEA* 0.01 mg/kg (0.1 mL/kg of 1:10,000 concentration) IV/IO. Repeat every 3-5 min. If no IV/IO access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1000 concentration). **Peds:** *Bradycardia* 0.01 mg/kg (0.1 mL/kg of 1:10,000 concentration) IV/IO. If no IV/IO access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1,000 high concentration). **Peds:** *Bronchospasms/Anaphylaxis* 0.01mg/kg 1:1,000 SQ/IM; ET Dose 0.1 mg/kg of 1:1,000 , follow with 5ml NS flush.1 microdrop/kg/min = 0.1 mcg/kg/min

Onset:	5 – 10 minutes - IV & ET: 1 – 2 minutes
Duration:	5 – 10 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-170*	Effective: *August, 2008*	Revised: *March, 2011*

EMT **EMT-IV**

EPINEPHRINE FOR EMT	
Trade Names:	Adrenalin
Class:	Catecholamine
Therapeutic Action:	Vasoconstriction, Bronchial Dilation, Inotropic & Chronotropic Effects
Mechanism of Action:	Sympathomimetic which stimulates the Alpha and Beta receptors
Indications:	• Anaphylaxis
Contraindications:	• None in life-threatening situations
Adverse/Side Affects:	• Palpitations • Ventricular Ectopy • Tachycardia • Anxiety • Headache • Nausea & Vomiting
Drug Interactions:	Potentiated by--MAOIs, TCAs Antagonized by--Beta blockers
Dosage:	**Adult:** *Bronchospasm/Anaphylaxis* *Patient over 30kg/66lbs.* 0.3mg of 1:1,000 IM, may repeat in 5 minutes if no response with **MEDICAL CONTROL** approval. **Peds:** *Bronchospasms/Anaphylaxis* *Patient less than 30kg/66lbs* 0.15mg of 1:1,000 IM, may repeat in 5 minutes if no response with **MEDICAL CONTROL** approval.
Onset:	Rapid
Duration:	5 – 10 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-175*	Effective: *August, 2012*	Revised:

PARAMEDIC

** ALTERNATIVE MEDICATION **

FAMOTIDINE	
Trade Names:	Pepcid
Class:	Histamine H_2-receptor antagonist
Therapeutic Action:	
Mechanism of Action:	Competitively blocks histamine at H_2 receptors, particularly those in gastric parietal cells, leading to inhibition of gastric acid secretion
Indications:	• Allergic reactions
Contraindications:	• Hypersensitivity to drug or other histamine$_2$-receptor antagonists
Adverse/Side Affects:	• Dizziness/Headache • Nausea/Vomiting • Palpitations
Drug Interactions:	• No drug interactions have been identified.
Dosage:	**Adult:** 20 mg I.V. q 12 hours **Peds:** 0.25mg/kg over 2 minutes q 12 hours
Onset:	Rapid
Duration:	8-15 Hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-180*	Effective: *August, 2008*	Revised:

PARAMEDIC

FENTANYL	
Trade Names:	
Class:	Synthetic Opioid Agonist
Therapeutic Action:	
Mechanism of Action:	Binds to stereospecific receptors at many sites with the CNS, increases pain threshold and alters pain reception.
Indications:	• Pain Management • Post-intubation sedation
Contraindications:	• Sensitivity to Fentanyl • Uncorrected shock • ↑ ICP
Adverse/Side Affects:	• Bradycardia • Hypotension • Nausea and Vomiting • Respiratory depression • Euphoria *Give Narcan if reaction becomes severe.*
Drug Interactions:	ETOH, other narcotics, beta-blockers, phenothiazines
Dosage:	**Adult:** 25-100 mcg IV/IM, may be repeated PRN **Peds:** 2-3 mcg/kg
Onset:	IV: Immediate IM: 7-15 minutes
Duration:	1-2 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-190*	Effective: *August, 2004*	Revised:

PARAMEDIC

FUROSEMIDE	
Trade Names:	Lasix
Class:	Diuretic
Therapeutic Action:	Increases water excretion and venous dilatation, reduces preload.
Mechanism of Action:	Inhibits sodium and chloride re-absorption in the kidney. Reduces vascular volume, thus removing excess volume from the lungs in CHF and Pulmonary Edema.
Indications:	• Pulmonary Edema • Edema associated with CHF • Hypertension
Contraindications:	• Hypotension • Pregnancy • History of no urine production • Dehydration • Allergies to Sulfa's
Adverse/Side Affects:	• Volume depletion • Hypotension • Electrolyte disturbances (especially Potassium loss) • Rash • Headache • Deafness • Cardiac Dysrhythmias.
Drug Interactions:	Incompatible with Diazepam, Diphenhydramine, and Thiamine
Dosage:	**Adult:** 0.5 – 1mg/kg over 1 – 2 minutes. Max dose 2mg/kg. **Peds:** 1 – 2mg/kg slow IV. Max 6mg/kg
Onset:	Vascular effects – 5 minutes Diuretic effects – 15 – 20 minutes
Duration:	4 – 6 hours

Note: Patients already taking Lasix, double their dose IV; max dose of 2mg/kg. Also patient should be monitored for cardiac disturbances due to electrolyte imbalances and for hypotension from volume depletion

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-200*	Effective: *August, 2004*	Revised:

PARAMEDIC

GLUCAGON	
Trade Names:	None
Class:	Hormone
Therapeutic Action:	Stimulates the release of glucose from the liver, muscles and adipose tissue into the bloodstream.
Mechanism of Action:	Directly binds to target cells in the liver and counteracts the effects of insulin.
Indications:	• Hypoglycemic emergencies when IV access cannot be established. • Esophageal obstructions • Beta-blocker and calcium channel blocker toxicity. • Anaphylaxis when Epinephrine is relatively contraindicated by age or know cardiac disease.
Contraindications:	• Pregnancy • Pheochromocytoma (adrenal gland tumor) • Do Not Reconstitute with Saline (see Procedure note below)
Adverse/Side Affects:	• Headache • Nausea & Vomiting • Allergic Reaction
Drug Interactions:	
Dosage:	**Adult:** 0.5 – 1.0mg IM or IV **Peds:** *below 44lbs.* 0.1 -0.5mg IM or IV Sites of choice – buttock, thigh, or arm Beta-blocker 3 – 10mg IV
Onset:	Within 1 minute
Duration:	9 – 17 minutes

Procedure: Withdraw solution from bottle labeled #1. Inject the solution into the bottle labeled #2. Shake bottle gently until contents appear clear and water like.

Other Facts: May improve cardiac contractility and increase heart rate in beta-adrenergic blocker and calcium channel blocker toxicity.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-210*	Effective: *August, 2004*	Revised:

PARAMEDIC

HALOPERIDOL	
Trade Names:	Haldol
Class:	Tranquilizer
Therapeutic Action:	Controls aggression and activity in psychotic patients.
Mechanism of Action:	Exact mechanism in brain is not clear, however, it does block dopamine receptors and suppresses the cerebral cortex, limbic system, and an anti-cholinergic blocking component is present. It also exhibits a strong Alpha-adrenergic effect.
Indications:	• Acute psychotic episode, which needs to be treated for the safety of the patients, public, or response personnel.
Contraindications:	• CNS depression or Coma or suspected brain damage • Hypersensitivity to Haloperidol • Pregnancy; <3 yo • Alcohol or barbiturate withdrawals • Parkinson 's disease
Adverse/Side Affects:	• Hypotension (orthostatic) • Dystonias • Akathisia • N&V • Blurred vision • Cardiac arrest • Respiratory depression • Seizures.
Drug Interactions:	Potentiates other CNS depressants Toxicity: EPI, Lithium = Brain Damage Increases both drugs: Beta-blockers, Alcohol and Anticholinergic
Dosage:	**Adult:** 2 – 5mg IM, IV use is OK, but IM is preferred **Peds:** **Not Recommended**
Onset:	15 – 60 minutes IM
Duration:	12 – 24 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-211*	Effective: *August, 2016*	Revised: *November, 2016*

PARAMEDIC

HEPARIN DRIP

Trade Names:	Heparin
Class:	Anticoagulant
Therapeutic Action:	Prevent the formation, and treatment of blood clots
Mechanism of Action:	Acts at multiple sites in coagulation process; binds to antithrombin III, catalyzing inactivation of thrombin and other clotting factors
Indications:	• Acute myocardial infarction • DVT (deep vein thrombosis) • DIC (disseminated intravascular coagulation) • Pulmonary embolism • Atrial fibrillation(to prevent the formation of blood clots) • Prophylactically for prevention of blood clots
Contraindications:	•
Adverse/Side Affects:	• Care should be used when handling patient who are receiving Heparin infusion, as rough handling can cause bleeding • Heparin should not be used with patients who are actively bleeding • Heparin should not be used on patients with known or suspected intracranial hemorrhage • Concurrent use of Heparin and oral anticoagulants, thrombolytic and salicylates or IIb/IIIa antagonists may increase the chances of bleeding and some patients may be on 2 or more agents
Drug Interactions:	If patient has history of HIT Antibodies, do not give. HIT Antibodies = Heparin induced Thrombocytopenia. It is not a rare disorder so ask patient if they have a positive history of it.
Dosage:	Continue Heparin infusion at rate set by transferring physician Recommended mixing instructions are 25,000 units in 250 cc of NS Heparin may be mixed in either NS or D5W.
Onset:	
Duration:	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-213*	Effective: *August, 2012*	Revised:

PARAMEDIC

** ALTERNATIVE MEDICATION **

HYDROMORPHONE	
Trade Names:	Dilaudid
Class:	Narcotic Analgesic
Therapeutic Action:	Hydromorphone is a pure opioid agonist with the principal therapeutic activity of analgesia
Mechanism of Action:	Binds opiate receptors in the CNS.
Indications:	Treatment of severe pain
Contraindications:	• Known allergy to 1. Morphine/Morphine related medications 2. Codeine • Respiratory Depression • Bronchospams and Asthma • Hypovolemia and Shock • Brain Injury • Patient in Labor • Diarrhea or other bowel problems caused by anitobtics or poisoning.
Adverse/Side Affects:	• Bronchospasm and laryngospasm • Hypotension • Dizziness/Drowsiness/Lightheadedness • Nausea and Vomiting • Constipation
Drug Interactions:	Sodium Oxybate (GHB)
Dosage:	**Adult:** 1-2 mg SC/IV, slowly over 2 min q 3 hours prn for pain control. **Peds:** 0.005 mg/kg SC/IV q4-6h
Onset:	Immediate
Duration:	2.6 Hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-217*	Effective: *August, 2012*	Revised:

PARAMEDIC

** ALTERNATIVE MEDICATION **

HYDROXYZINE	
Trade Names:	Vistaril
Class:	Histamine H_1 antagonist, Mild anxiolytic agent with sedating properties
Therapeutic Action:	
Mechanism of Action:	• Hydroxyzine competes with histamine for binding at H_1-receptor sites on the effector cell surface, resulting in suppression of histaminic edema, flare, and pruritus. The sedative properties of hydroxyzine occur at the subcortical level of the CNS. Secondary to its central anticholinergic actions, hydroxyzine may be effective as an antiemetic.
Indications:	• Allergic reactions
Contraindications:	• Hypersensitivity to drug • SC, IV, or intra-arterial administration • pregnancy 1st trimester • caution in elderly patients • caution if asthma • caution if high environmental temperature
Adverse/Side Affects:	• Drowsiness • Tremors • Headache
Drug Interactions:	• ETOH • Acetylcholinesterase Inhibitors • Anticholinergic medications • Other medications that cause drowsiness • Phenothiazine medications
Dosage:	**Adult:** 25mg IM - For IM administration only **Peds:** 1mg/kg IM - For IM administration only
Onset:	15-30 minutes
Duration:	4-6 Hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-220*	Effective: *August, 2004*	Revised: *May, 2015*

PARAMEDIC

IPRATROPIUM BROMIDE	
Trade Names:	Atrovent
Class:	Anticholinergic (parasympatholytic)
Therapeutic Action:	Relaxes bronchial constriction associated with COPD (Chronic bronchitis & Emphysema), Dries bronchial secretions.
Mechanism of Action:	Inhibits acetylcholine and Vagal-mediated reflexes in the bronchial smooth muscles.
Indications:	• Bronchial spasm associated with COPD (Chronic Bronchitis & Emphysema) • Bronchial Asthma *Administration with Albuterol will improve affects and duration of relaxed bronchial tree.*
Contraindications:	• Known Allergies to Ipratropium Bromide or Atropine. • Use caution in patients with Narrow Angle Glaucoma, Prostatic hypertrophy, and bladder neck obstruction.
Adverse/Side Affects:	• Temporary blurred vision - Keep away from eyes • Tachycardia • Palpitations • Urinary retention • Bronchospasms • Headache • Dry mouth.
Drug Interactions:	
Dosage:	**Adult:** 500mcg (1 unit-dose phish) in a hand-held nebulizer with Albuterol. **Peds:** Use on patients under the age of 12 is not recommended
Onset:	1 – 3 minutes
Duration:	4 – 6 hours

Note: EMT & EMT-IV may only *assist* patient with that patient's own Metered Dose Inhaler

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-230*	Effective: *August, 2004*	Revised:

PARAMEDIC

LABETALOL	
Trade Names:	Transdate, Normodyne
Class:	Alpha & Beta adrenergic blocker
Therapeutic Action:	Lowers blood pressure without reflex tachycardia
Mechanism of Action:	Competitive Alpha receptor blocker and a non-selective Beta-blocker. Reduces Renin plasma levels. Vasodilatation and Beta-blocker blockade of heart and lungs are the main effects.
Indications:	○ Hypertensive Crisis
Contraindications:	• Bradycardia, 2nd & 3rd degree AV blocks • Cardiogenic shock and Hypotension • Cardiac Failure (CHF) • Asthma & COPD • Stimulant overdoes
Adverse/Side Affects:	• Orthostatic hypotension • Bradycardia • AV Blocks, • Ronchospasms • Pulmonary Edema • Ventricular dysrhythmias • CHF
Drug Interactions:	Blocks affects of beta-adrenergic bronchodilators in Asthma and COPD patients. Severe Bradycardias if given after Verapamil or other Calcium Channel Blockers. Potentiates hypotension with Nitroglycerine.
Dosage:	**Adult: *Contact Medical Control*** 5 – 20mg IV over 2 minutes. If no response in 10 minutes give 40mg slow IV over 2 minutes. If still no response in 10 minutes give 80mg slow IV over 2 minutes. Max dose 300mg. **Consider ½ dose for patients over 65 years old.**
Onset:	Within 10 minutes
Duration:	2 – 6 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-240*	Effective: *August, 2008*	Revised: *June, 2009*

PARAMEDIC

LIDOCAINE 1%	
Trade Names:	Xylocaine 1%
Class:	Local anesthetic
Therapeutic Action:	
Mechanism of Action:	Stabilizes the neuronal membrane by inhibiting the ionic fluxes required for the initiation and conduction of impulses thereby effecting local anesthetic action.
Indications:	• Epidural anesthesia/Infiltration during IV or IO procedures.
Contraindications:	• Sensitivity to Lidocaine or other anesthetics.
Adverse/Side Affects:	
Drug Interactions:	
Dosage:	**Adult/Peds:** Varies based on area to be anesthetized: generally 2-3 mL per dermatone.
Onset:	5-30 minutes
Duration:	2 – 3 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-250*	Effective: *August, 2004*	Revised:

PARAMEDIC

LIDOCAINE 2%	
Trade Names:	Xylocaine
Class:	Ventricular Antidysrhythmic
Therapeutic Action:	Suppresses ventricular automaticity in ischemic tissue, thus lowering the ventricles ability to produce ectopic beats. Lengthens phase 4's spontaneous depolarization.
Mechanism of Action:	Raises the Ventricular Fibrillation threshold by altering phase 4 depolarization and ventricular automaticity.
Indications:	• V-Fib/V-Tach (Pulseless and with a pulse) • PVC's >6 a minute, couplets, triplets, R-on-T, Multi-Focal • Wide Complex Tachycardias of unknown origin.
Contraindications:	• 2nd & 3rd degree AV blocks • Idioventricular rhythms • Escape rhythms
Adverse/Side Affects:	• Drowsiness & Discoloration • Hypotension, Seizures • Coma • Numbness and Tingling
Drug Interactions:	Caution with Procainamide, Phenytoin, Quinidine, and Beta Blockers
Dosage:	**Adult:** *Cardiac Arrest Rhythms* 1 – 1.5mg/kg IVP q 5 minutes at 1 – 1.5mg/kg IVP to a total of 3mg/kg **Adult:** *V-Tach w/ Pulse(stable/unstable) & Malignant PVC's* 1 – 1.5mg/kg IVP over 2 minutes. Repeat dose if needed in 5 – 10 minutes at 0.5 – 0.75mg/kg over 2 minutes to total of 3mg/kg. *ET Dose should be 2 – 2.5 times the normal dose.* *Patients over 70 y/o and hepatic disease – reduce dose by ½.* **Drip:**4mg/cc – Standard Mix Pt. received 1mg/kg: Conversion drip at 2mg/min (30gtts) Pt. received 1.5 – 2mg/kg Conversion drip at 3mg/min (45gtts) Pt. received 2.25 – 3mg/kg Conversion drip at 4mg/min (60gtts) **Peds:** 1mg/kg IVP to a max of 3mg/kg. Pediatric Drip: 20-50 mcg/kg/min To make 1cc/hr = 1 mcg/kg/min: Mix [kg x 15] mg in 250cc NS
Onset:	30 – 90 seconds
Duration:	2 – 4 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-255*	Effective: *August, 2012*	Revised:

PARAMEDIC

**** ALTERNATIVE MEDICATION ****

LORAZEPAM	
Trade Names:	Ativan
Class:	Benzodiazepine
Therapeutic Action:	Suppresses seizure activity in motor cortex. CNS depressant and muscle relaxant. Suppresses anxiety and tremors with DT's, mild amniotic. Sedative effects during cardioversion and TCP.
Mechanism of Action:	Binds to specific benzodiazepine receptors in the CNS, which inhibits neuronal transmissions.
Indications:	• Acute Anxiety and tremors in alcoholic delirium tremens. • Grand Mal seizures • Premedication for cardioversion, TCP and RSI • Acute Anxiety
Contraindications:	• Hypersensitivity to Benzodiazepines • CNS depression secondary to head injuries or mind altering drugs, Pregnancy (mother comes first) • Respiratory depressed patients • Shock • Patients with alcohol and depressant drugs on board. • Acute narrow angle glaucoma
Adverse/Side Affects:	• Hypotension • Respiratory depression or arrest • Confusion • N/V
Drug Interactions:	Potentiates effects of other CNS depressing medications. May react with other medications in IV line. Barbiturates, Alcohol, and other narcotics will increase effects of benzodiazepines.
Dosage:	**Adult:** *Seizures* 2 mg slow IV, IM, or ET as needed. Max dose 8mg **Adult:** *Anxiety* 2 mg slow IV **Adult:** *Premedication* 2 mg slowly IV, IM or ET; 5-10 prior to TCP/Cardioversion or Succinylcholine use. **Peds:** *Seizures* 0.05-0.1 mg//kg IV, IO, or ET (no faster than 2mg/min)
Onset:	5-20 minutes
Duration:	6-8 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-260*	Effective: *August, 2004*	Revised:

PARAMEDIC

MAGNESIUM SULFATE	
Trade Names:	None
Class:	Electrolyte
Therapeutic Action:	Stops convulsive seizures associated with pre-eclampsia, CNS depressant.
Mechanism of Action:	Magnesium is integral in the normal functioning of the sodium/potassium pump, which helps maintain cellular wall stability. It is identified as a "physiological" calcium channel blocker and a blocker of normal neuromuscular nerve transmission. It effects the movement of potassium across the cellular wall during cellular depolarization, which increases intracellular potassium and altering calcium effects on conduction. This decreases Chronotropic effects.
Indications:	• Seizures associated with Eclampsia • Asthma • Torsades de Pointes • Refractory VF & Cardiac Arrest
Contraindications:	• Kidney Failure • Respiratory Depression • Hypocalcemia • Heart Blocks • Shock due to blocking effects
Adverse/Side Affects:	• Hypotension; Respiratory depression or arrest • If given rapidly can drop heart rate. • Toxicity – Flaccid muscle paralysis due to blocking neuromuscular transmissions; Depression of deep tendon reflexes; Respiratory paralysis and Circulatory collapse.
Drug Interactions:	May interfere with effects of neuromuscular blocking agents and calcium
Dosage:	**Adult:** *Eclamptic Seizure* 1g per minute IV to Max dose of 4g **Adult:** *Cardiac Dysrhythmias/Torsades with Pulse/Asthma* 1 – 2g in 100ml of D5W over 5-60 minutes **Adult:** *Cardiac Arrest/Torsades/Refractory VF* 1-2g IV/IO **Peds:** *Cardiac Dysrhythmias/Asthma* 25 – 50mg/kg IV over 3 – 5 minutes
Onset:	Immediate
Duration:	3 – 4 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-270*	Effective: *August, 2004*	Revised:

PARAMEDIC

METHYLPREDNISOLONE	
Trade Names:	Solu-Medrol
Class:	Steroid
Therapeutic Action:	Decreases inflammatory response and reduces edema in tissues
Mechanism of Action:	Has strong anti-inflammatory and cell membrane stabilizing effects.
Indications:	• Acute COPD • Asthma • Allergic Reaction
Contraindications:	• Premature infants • Systemic Fungal Infections • Known hypersensitivity to methylprednisolone
Adverse/Side Affects:	• Exacerbation of CHF (retention of fluid) • Arrhythmias • Hyperglycemia
Drug Interactions:	Cyclosporin, Phenobarbital, Phenytoin, Rifampin, Troleandomycin, and Ketoconazole **Caution: Incompatible with Diphenhydramine (Benadryl); Flush between drugs.**
Dosage:	**Adult:** 125mg slow IV push **Peds:** 1 – 2mg/kg (max 125mg) slow IVP
Onset:	IV immediate – 30 minutes
Duration:	3 – 4 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-280*	Effective: *August, 2004*	Revised:

PARAMEDIC

MIDAZOLAM HCL	
Trade Names:	Versed
Class:	Short-acting Benzodiazepine
Therapeutic Action:	Relieves apprehension and impairs memory during cardioversion and endotracheal intubation.
Mechanism of Action:	
Indications:	• Premedication for: • Endotracheal Intubation • Cardioversion • Conscious Sedation • Excited delirium
Contraindications:	• Hypersensitivity to Midazolam • Glaucoma • Shock – Depressed Vital Signs • Coma • Overdose • Alcohol intoxication • Barbiturates; Narcotics; or other CNS depressants on board
Adverse/Side Affects:	• Cough • Oversedation • Pain at injection site • Blurred Vision • N/V • Hypotension • Fluctuating Vitals • Respiratory Depression or Arrest
Drug Interactions:	Narcotics, Benzodiazepines, Barbiturates, or other CNS depressants accentuate sedative effects
Dosage:	**Adult:** 1 – 5mg IV over 2 – 3 minutes. May be repeated in 1mg increments; not to exceed 0.1mg/kg **Adult:** *Excited delirium* 10mg IV **Peds:** 0.1mg/kg
Onset:	1 – 3 minutes IV
Duration:	2 – 6 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-290*	Effective: *August, 2004*	Revised:

PARAMEDIC

MORPHINE SULFATE	
Trade Names:	None
Class:	Narcotic analgesic, Venous Pooler
Therapeutic Action:	Potent pain reliever; venous pooling; reduces preload; reduces systemic vascular resistance; reduces MVO2; reduces cardiac workload
Mechanism of Action:	Smooth muscle relaxant (venous & arterial); Binds opiate receptors in the CNS.
Indications:	• Chest Pain secondary to Acute Myocardial Infarction • Analgesia • CHF with Pulmonary and Peripheral Edema
Contraindications:	• Head Injuries • Bronchospams and Asthma • Hypovolemia and Shock • Abdominal Pain of Unk Etiology
Adverse/Side Affects:	• Respiratory depression and arrest • CNS depression • Hypotension and Bronchospasms • Nausea and Vomiting
Drug Interactions:	Other CNS depressants, Respiratory depressants and alcohol
Dosage:	**Adult:** 2mg q 2 – 3 minutes when respiratory drive OK and BP >90mmHg. 2 – 10mg slow IV, IM push repeated every 5 minutes for pain. **Peds:** 0.1 – 0.2mg/kg IV, IM. Max – 15mg
Onset:	Immediate
Duration:	2 – 7 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-300*	Effective: *August, 2004*	Revised: January 2017

EMT | **EMT-IV** | **PARAMEDIC**

NALOXONE (Narcan)	
Trade Names:	Narcan
Class:	Opiate antagonist
Therapeutic Action:	Reverses effects of narcotics on the body
Mechanism of Action:	Binds to the opiate receptors in the body to block the effects of narcotics.
Indications:	• Known narcotic or opioid overdose • Respiratory depression of unknown origin • Coma or Altered LOC of unknown origin
Contraindications:	• Hypersensitivity to Naloxone.
Adverse/Side Affects:	• Tachycardia • Diaphoresis • Hypertension • N/V • Dysrhythmias • Withdrawals
Drug Interactions:	Alkaline Solutions
EMT Dosages:	**Adult:** 1mg- may repeat 1mg in 4 minutes if pt has not responded to a Max of 2mg IN (MAD), IM, SQ **Peds:** 0.5mg- may repeat 0.5 mg in 4 minutes if pt has not responded to a Max of 1mg IN (MAD), IM, SQ May repeat dosages again in 15 minutes if the pt responds to the 1st/2nd dose
Paramedic Dosages:	. **Adult:** 0.4-2mg q 2 – 5 minutes to a Max of 10mg IV, IM, IN, SQ, MAD and IO **Peds:** 0.1mg/kg to a max single dose of 2mg IV, IM, IN, SQ, MAD and IO
Onset:	Within 2 minutes
Duration:	30 – 60 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-310*	Effective: *August, 2004*	Revised:

PARAMEDIC

NITROGLYCERINE/NITRO PASTE	
Trade Names:	Nitro, Nitrostat
Class:	Vasodilator
Therapeutic Action:	Systemic arterial and venous dilatation; Reduces preload and after load
Mechanism of Action:	Relaxes vascular smooth muscle
Indications:	• Chest pain secondary to decreased myocardial oxygen flow • CHF • Pulmonary Edema • Hypertension
Contraindications:	• Hypotension (systolic <90 mmHg) • Intracranial bleeding • Viagra, Cialis or Lavitra
Adverse/Side Affects:	• Hypotension • Headache • Fainting • Flushing • Nausea
Drug Interactions:	Other hypotension causing medications
Dosage:	0.4mg SL q 5min until 3 doses given 1" of Nitro Paste may be applied to the anterior chest after the 2nd dose in chest pain secondary to decreased myocardial oxygen flow (Angina/AMI) 1" of Nitro Paste may be applied to the anterior chest of patients experiencing pulmonary edema in association with congestive heart failure.
Onset:	1 – 3 minutes
Duration:	20 – 30 minutes

Note: EMT & EMT-IV may only *assist* patient with that patient's own Nitro Tablets
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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-311*	Effective: *August, 2016*	Revised:

PARAMEDIC

NITROGLYCERIN DRIP	
Trade Names:	Nitroglycerin, Nitrostate
Class:	Vasodilator
Therapeutic Action:	• Decreased preload; reduces venous tone, decreasing venous load on the heart • Reduces cardiac oxygen demand • Decreases afterload; reduces peripheral vascular resistance • Increases myocardial oxygen supply; causes dilation of coronary arteries and relief of coronary artery spasm.
Mechanism of Action:	Relaxes vascular smooth muscle
Indications:	• Chest pain secondary to presumed cardiac ischemia, acute coronary syndrome or acute myocardial infarction • Acute pulmonary edema/CHF
Contraindications:	

Adverse/Side Affects:	• Peripheral vasodilation can cause profound hypotension and reflex tachycardia
	• Common side effects
	  ○ Throbbing headaches
	  ○ Flushing
	  ○ Dizziness
	• Less common side effects
	  ○ Orthostatic hypotension, sometimes marked
	• Nitroglycerin does not provide controlled hypotension
	• Because nitroglycerin causes smooth muscle relaxation, it may be effective in relieving chest pain caused by esophageal spasm
	• Decreases cardiac preload so caution with valvular disease (i.e. mitral stenosis or aortic stenosis). Extreme caution with inferior wall MIs and suspected right ventricular involvement.

Drug Interactions:	
Dosage:	• Continuing nitroglycerin infusion at rate sets by transferring physician • Dosing chart: See table 1 for example charts. Nitroglycerin may be mixed in either NS or D5W • If pain resolves completely, maintain drip at current ate of administration • If pain continues, increase drip by 5-10 mcg/min every 5 minutes until pain resolves or systolic BP falls below 90 mmHg • Maximum does for nitroglycerin is 200 mcg/min • If systolic PB falls below 90 mmHg during titration, decrease the drip rate by 10 mcg and give 250 mL NS bolus IV • If BP remains below 90 mmHg, discontinue drip

	• Vital sign must be rechecked q 5-10 minutes and after each dosing change.
Onset:	
Duration:	

Nitroglycerin Conversion Table

Strength:	25 mg/250mL	50 mg/250 mL	100 mg/250 mL	50 mg/500 mL
	100 mcg/1 mL	200 mcg/1 mL	400 mcg/1 mL	100 mcg/1 mL
Dose Ordered:				
5 mcg/min	3 mL/hr	1.5 mL/hr	0.75 mL/hr	3 mL/hr
10	6 mL/hr	3 mL/hr	1.5 mL/hr	6 mL/hr
15	9 mL/hr	1.5 mL/hr	0.75 mL/hr	9 mL/hr
20	12 mL/hr	4 mL/hr	1.5 mL/hr	12 mL/hr
25	15 mL/hr	1.5 mL/hr	0.75 mL/hr	15 mL/hr
30	18 mL/hr	5 mL/hr	1.5 mL/hr	18 mL/hr
35	21 mL/hr	1.5 mL/hr	0.75 mL/hr	21 mL/hr
40	24 mL/hr	6 mL/hr	1.5 mL/hr	24 mL/hr
45	27 mL/hr	1.5 mL/hr	0.75 mL/hr	27 mL/hr
50	30 mL/hr	7 mL/hr	1.5 mL/hr	30 mL/hr
55	33 mL/hr	1.5 mL/hr	0.75 mL/hr	33 mL/hr
60	36 mL/hr	8 mL/hr	1.5 mL/hr	36 mL/hr
65	39 mL/hr	1.5 mL/hr	0.75 mL/hr	39 mL/hr
70	42 mL/hr	9 mL/hr	1.5 mL/hr	42 mL/hr
75	45 mL/hr	1.5 mL/hr	0.75 mL/hr	45 mL/hr
80	48 mL/hr	10 mL/hr	1.5 mL/hr	48 mL/hr
85	51 mL/hr	1.5 mL/hr	0.75 mL/hr	51 mL/hr
90	54 mL/hr	11 mL/hr	1.5 mL/hr	54 mL/hr
95	57 mL/hr	1.5 mL/hr	0.75 mL/hr	57 mL/hr
100	60 mL/hr	12 mL/hr	1.5 mL/hr	60 mL/hr

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-312*	Effective: *August, 2016*	Revised:

PARAMEDIC

NOREPINEPHRINE	
Trade Names:	Levophed
Class:	Adreneric vasopressor
Therapeutic Action:	Primary alpha adrenergic vasoconstrictor
Mechanism of Action:	Vasoconstriction; increases peripheral vascular resistance, increases BP, decreases renal and mesenteric perfusion Beta -1 adrenergic: increases inotropy
Indications:	• Hypotension • Sepsis • Shock persisting after adequate fluid volume replacement
Contraindications:	• Hypertension • Given prior to fluids for uncorrected hypotension
Adverse/Side Affects:	• Headache • Palpitations • Tachycardia • Chest Pain • Eventual Hypertension • Bradycardia an result reflexively from an increase in blood pressure.
Drug Interactions:	
Dosage:	Start at 2-4mcg/minute – se dosage chart – titrated to a systolic B/P ≥ 100mmHg. Maximum infusion rate is 12 mcg/minute.
Onset:	Rapid
Duration:	1 to 2 minutes after discontinuation of IV dosing

DOSAGE Chart

Indication	Dose	Route(s)	Special
Adult			**MIXING/ADMINISTRATION ADULT AND PEDIATRIC:** Add one 4 mg ampule to 1000 mL of NS or D5W. Administer via infusion pump ONLY.
Septic, cardiogenic, neurogenic, and obstructive shock	Begin at 4 mcg/min. If no response, increase every 5 min in 4 mcg/min. increments to MAX 12 mcg/min	IV/IO	
Pediatric			
Septic, cardiogenic, neurogenic, and obstructive shock	Begin at 0.1 mcg/kg/min. If no response in 5 min. increase to 0.2 mcg/kg/mi. IF still no response after 5 more min., may incrase to 0.4 mcg/kg/min. Increase all subsequent doses 0.2 mcg/kg/min. every 5 min to MAX does of 2 mcg/kg/min. Goal is age appropriate systolic blood pressure.	IV/IO	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-320*	Effective: *August, 2008*	Revised: *June, 2009*

EMT | **EMT-IV** | **PARAMEDIC**

ORAL GLUCOSE	
Trade Names:	Insta-Glucose
Class:	Nutrient
Therapeutic Action:	Oral glucose is absorbed from the intestine after administration and then used by tissues. Direct absorption occurs, resulting in a rapid increase in blood glucose levels, making it very effective in small doses.
Mechanism of Action:	Adds glucose to circulating blood volume
Indications:	• Altered mental status caused by hypoglycemia.
Contraindications:	• Unresponsive patient • No gag reflex • Inability to swallow
Adverse/Side Affects:	• No COMMON side effects have been reported with this product
Drug Interactions:	No significant interactions
Dosage:	**Adult:** 1 tube, repeat in 10 minutes as needed. **Peds:** ½ tube, repeat in 10 minutes as needed.
Onset:	10 minutes
Duration:	Varies

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-330*	Effective: *August, 2004*	Revised:

EMR | **EMT** | **EMT-IV** | **PARAMEDIC**

OXYGEN	
Trade Names:	O_2
Class:	Inhaled gas
Therapeutic Action:	Increases inspired oxygen levels, alveolar oxygen levels, and oxygen within the blood stream.
Mechanism of Action:	Binds up to 100% of unsaturated hemoglobin molecules inside RBC's
Indications:	• Known or suspected hypoxia or hypoxemia • Respiratory insufficiency • Prophylactically • Carbon monoxide poisoning
Contraindications:	• None in emergent patient care
Adverse/Side Affects:	• Depression of respiratory drives in COPD patients.
Drug Interactions:	None
Dosage:	**Adult & Pediatrics:** 24 – 100% Nasal Cannula: 2-6 L/min (24 – 44%) Simple Mask: 10-12 L/min (40 – 60 %) Non-Rebreather Mask: 10-15 L/min (60 – 100%)
Onset:	Immediately
Duration:	Less than 2 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-340*	Effective: *August, 2004*	Revised:

PARAMEDIC

OXYTOCIN	
Trade Names:	Pitocin
Class:	Pituitary Hormone, Uterine stimulant
Therapeutic Action:	Stimulates contractions of uterine smooth muscle to decrease bleeding from uterine vessels. Squeezes down on uterine smooth muscle myofibrils, producing uterine wall contractions.
Mechanism of Action:	Synthetic hormone similar to the one released by the posterior Pituitary gland, which causes contraction of the uterine smooth muscle myofibrils producing uterine wall contractions.
Indications:	• Postpartum hemorrhage after delivery of baby & placenta
Contraindications:	• Prior to delivery • Multiple babies, which have not all delivered • Previous cesarean section • Fetal distress • Serum toxemia
Adverse/Side Affects:	• Hypotension • Hypertension • Angina • Anxiety • Uterine Rupture • Tachycardia • Seizure • Allergic Reaction • Dysrhythmias • IC Bleed
Drug Interactions:	Vasopressors = Severe Hypertension
Dosage:	Mix 10units (1ml) in 1000cc NS = 10 milliunits/ml Infuse at 10 – 40 milliunits/minute
Onset:	Immediate
Duration:	20 minutes after infusion stopped

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-345*	Effective: *May, 2010*	Revised: *August, 2012*

PARAMEDIC

**** ALTERNATIVE MEDICATION ****

PANCURONIUM BROMIDE	
Trade Names:	Pavulon
Class:	Nondepolarizing, neuromuscular blocking agent
Therapeutic Action:	
Mechanism of Action:	Nondepolarizing, neuromuscular blocking agent belonging to the curaroform class of drugs. Its activity leads to neuromuscular blockage by competing for chollnergic receptors at the motor end-plate.
Indications:	• Intubated patients requiring the need to be paralyzed for prolonged periods of time.
Contraindications:	• Hypersensitivity to Pancuronium or bromide products • Patients with Unsecured Airways • Patients which require a Neuro examination upon arrival to ER.
Adverse/Side Affects:	• Increased saliviation • Hypertension • Tachyarrhythtmia • Prolonged neuromuscular block • Apnea • Bronchospasm (rare) • Respiratory Failure
Drug Interactions:	Prior administration of succinylcholine may enhance the neuromuscular blocking effect of Pancuronium bromide and increase its duration of action. If succinylcholine is used before Pancuronium bromide, the administration of Pancuronium bromide should be delayed until the patient starts recovering from succinylcholine-induced neuromuscular blockade
Dosage:	**Adult:** 0.06 – 0.1 mg/kg IV . **Peds:** 0.04 – 0.1 mg/kg IV
Onset:	Approximately 4 minutes
Duration:	89 – 161 minutes o Doubled in patients with cirrhosis, biliary obstruction and renal failure

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-346*	Effective: *August, 2016*	Revised:

PARAMEDIC

PANTOPRAZOL	
Trade Names:	Protonix
Class:	Proton Pump Inhibitor
Therapeutic Action:	A proton pump inhibitor that suppresses the final step in gastric acid production.
Mechanism of Action:	
Indications:	• History of GERD with or without history of erosive esophagitis. • Maintenance of Healing of Erosive Esophagitis • Patholigical Hypersecretory Conditions including Zollinger-Ellison syndrome
Contraindications:	• Known Hypersensitivity
Adverse/Side Affects:	• Headache • Abdominal Pain • Chest Pain • Dyspnea • Hemorrhage • Diarrhea • Nausea • Vomiting • Dizziness • Rash
Drug Interactions:	
Dosage:	**<u>Adult</u>:** 40mg IV/IO once **<u>Peds:</u> Children 5 years and older (short term treatment of erosive esophagitis associated with GERD)** 33 lbs – 88 lbs. 20 mg IV/IO once Greater than 88 lbs. 40 mg IV/IO once
Onset:	
Duration:	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-347*	Effective: *August, 2012*	Revised:

PARAMEDIC

**** ALTERNATIVE MEDICATION ****

PROCAINAMIDE HYDROCHLORIDE	
Trade Names:	Pronestyl ,Procan
Class:	Antidysrhythmic
Therapeutic Action:	
Mechanism of Action:	• Suppresses ectopy in atrial & ventricular tissue, has little use on arrhythmias of nodal origin. • In normal ventricular muscle and Purkinje fibers, it suppresses phase 4 diastolic depolarization thus reducing the automaticity of all pacemakers. It also slows intraventricular conduction, thus suppressing reentry arrythmias. • If there is ischemic tissue and conduction is already slowed, • procainamide may further slow conduction and produce bi-directional block and may terminate reentry dysrhythmias. • Potent vasodilator. • Decreases chronotropy, excitability, negative dromotropy. • Modest negative inotropy.
Indications:	• Sustained ventricular tachycardia (with pulse) refractory to lidocaine. • Management of ventricular dysrhythmias when lidocaine contraindicated.
Contraindications:	• Pre-existing QT prolongation or torsades de pointes • High AV blocks unless a pacemaker is in place. • Hypersensitivity
Adverse/Side Affects:	• May cause severe hypotension, bradycardia and heart blocks • Nausea and vomiting are common.
Drug Interactions:	• Additive effect with other antidysrhythmics • Additive anticholinergic effects with other anticholinergics. • Neurological toxicity with lidocaine
Dosage:	**<u>Adult</u>:** 20mg/min IV Infusion until: a. The dysrhythmia is suppressed b. Hypotension ensues c. The QRS is widened by 50% of its original width d. A total of 17 mg/kg of the medication has been administered e. Infusion [1gm] in 250 ml D5W or NS at 1 to 4 mg per minute **<u>Peds</u>:** 15mg/kg IV, IO infusion over 30-60 min

Onset:	10-30 minutes
Duration:	3-6 Hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-350*	Effective: *August, 2004*	Revised: *August, 2012*

PARAMEDIC

**** ALTERNATIVE MEDICATION ****

PROCHLORPERAZINE	
Trade Names:	Compazine
Class:	Antiemetic, antipsychotic
Therapeutic Action:	Acts centrally by blocking chemoreceptor trigger zone, which in turn acts on vomiting center.
Mechanism of Action:	
Indications:	• Nausea & Vomiting • Psychotic Disorders
Contraindications:	• Hypersensitivity to Compazine • Comatose States • Under influence of CNS depressants (ETOH, barbiturates, narcotics). • Seizures • Encephalopathy • Bone marrow depression • Narrow angle glaucoma • Pregnancy
Adverse/Side Affects:	• Neuroleptic malignant syndrome • Extrapyramidal reactions ○ For reactions: 50mg Benadryl • Tachycardia • Respiratory depression • Severe Hypotension
Drug Interactions:	Other phenothiazines
Dosage:	**Adult:** *Nausea & Vomiting* 5-10mg IM, 2.5-5mg slow IV **Adult:** *Psychotic Episodes* 10-20mg IM, 2.5-10mg slow IV **Peds:** *Nausea/Vomiting & Psychotic Episodes* 0.132mg/kg IM • **IM preferred route in large muscle mass.** • **If given IV, dilute before administration.**
Onset:	IM 10-20 minutes
Duration:	12 Hours: Metabolized by liver, excreted in urine and breast milk. Crosses placenta.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-360*	Effective: *August, 2004*	Revised:

PARAMEDIC

PROPOFOL	
Trade Names:	Diprivan
Class:	Sedative-Hypnotic
Therapeutic Action:	
Mechanism of Action:	
Indications:	o Induction o Sedation o Conscious Sedation
Contraindications:	o Hypersensitivity to Propofol, Soy, Peanuts or Eggs
Adverse/Side Affects:	o Injection Site Pain o Involuntary Muscle movement o Nausea & Vomiting o Anaphylaxis (rare) – soy & peanut allergy o Respiratory Acidosis o Bradycardia o Hypertension o Hypotension o Torsades de Pointes – Responds well to $MgSO_4$
Drug Interactions:	
Dosage:	**Adult:** *Sedation – Induction* 50-100mg IV (1 – 2.5mg/kg) Dose varies **Adult:** *Sedation – Maintenance* 10mg or 20mg incremental IV bolus doses **Ped**s: *Sedation – Induction* (3 – 16yo & Healthy) 2.5 – 3.5mg/kg IV; as above
Dose Adjustments:	Geriatrics, Weight, ETOH, etc – titrate
Administration:	o Use dedicated line o Dilute only with normal saline to a concentration not less than 2mg/ml o Maintain strict aseptic technique during handling
Monitoring:	Continuously; Hypotension; Apnea; Airway Obstruction; Oxygen Desaturation
Onset:	30-60 seconds
Duration:	3 minutes

Pregnancy Category:B

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-363*	Effective: *August, 2012*	Revised:

PARAMEDIC

**** ALTERNATIVE MEDICATION ****

PROPRANOLOL	
Trade Names:	Inderal
Class:	Beta-adrenergic blocker (nonselective), Antiarrhythmic
Therapeutic Action:	Competitively blocks beta-adrenergic receptors in the heart and juxtoglomerular apparatus, decreasing the influence of the sympathetic nervous system on these tissues, the excitability of the heart, cardiac workload and oxygen consumption, and the release of renin and lowering BP; has membrane-stabilizing (local anesthetic) effects that contribute to its antiarrhythmic action; acts in the CNS to reduce sympathetic outflow and vasoconstrictor tone. The mechanism by which it prevents migraine headaches is unknown.
Mechanism of Action:	
Indications:	• Supraventricular arrhythmias
Contraindications:	• Cardiogenic Shock • Sinus Bradycardia & greater than 1st degree block • Bronchial asthma • Patients with known hypersensitivity to Propranolol • Use cautiously with hypoglycemia and diabetes, thyrotoxicosis, hepatic dysfunction.
Adverse/Side Affects:	• Hypotension • Dizziness • Bradycardia
Drug Interactions:	• Other beta-blockers • Disopyramide
Dosage:	**Adult:** 1-3 mg slow IV (1mg/min) Sufficient time should be allowed for the drug to reach the site of action even when a slow circulation is present. A second dose may be given after 2 minutes. Thereafter, additional drug should not be given in less than 4 hours. Additional propranolol should not be given when the desired alteration in rate and/or rhythm is achieved. **Peds:** 0.01 to 0.1 mg/kg slow IV over 10 minutes; maximum dose: 1 mg (infants); 3 mg (children).
Onset:	Immediate
Duration:	4 hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-366*	Effective: *August, 2012*	Revised:

PARAMEDIC

** ALTERNATIVE MEDICATION **

ROCURONIUM	
Trade Names:	Zemuron
Class:	Non-depolarizing neuromuscular blocker.
Therapeutic Action:	Provides skeletal muscle relaxation to facilitate endotracheal intubation.
Mechanism of Action:	
Indications:	• Maintenance of paralysis AFTER intubation to assist ventilation during prolonged transport. • Initial means of paralysis for adult and pediatric patients with contraindications for succinylcholine (i.e. crush injury patients, personal or family history of malignant hyperthermia, inherited myopathies such as muscular dystrophy and pre-existing hyperkalemia).
Contraindications:	• Known sensitivity to Rocuronium
Adverse/Side Affects:	• Patients with neuromuscular diseases such as myasthenia gravis or myasthenic syndrome may have prolonged periods of paralysis. • May cause tachycardia in up to 30% of patients. • May cause temporary hypotension
Drug Interactions:	
Dosage:	**Adult:** 1mg/kg IV or IO push **Peds:** 1mg/kg IV or IO push.
Onset:	60 Seconds
Duration:	40-60 minutes

NOTE: Ensure that drug is kept refrigerated or replaced every 60 days.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-370*	Effective: *August, 2004*	Revised:

PARAMEDIC

SODIUM BICARBONATE	
Trade Names:	None
Class:	Electrolyte
Therapeutic Action:	Increases pH in blood. Buffering agent.
Mechanism of Action:	Acts as a bicarbonate ion and binds with H ions to from Carbonic acid.
Indications:	o Metabolic Acidosis o Prolonged Resuscitation Situations o Tricyclic Anti-Depressant OD class IIa o Hyperkalemia
Contraindications:	o CHF & Kidney failure o Before Respiratory Alterations have been accomplished
Adverse/Side Affects:	o Decreased O_2 delivery at cellular level o CNS acidosis o Metabolic Alkalosis o Hypernatremia
Drug Interactions:	o May precipitate with CaCl, CaG1, Morphine, Aminophylline, and MgSO4. o Inactivates Epinephrine, Isuprel, Dopamine
Dosage:	**Adult:** 1mEq/kg slow IV. Repeat in 10 minutes with 0.5mEq/kg Peds: 1mEq/kg of pediatric mixture (8.4%). Repeat in 10 minutes with 0.5mEq/kg slow IV
Onset:	2 – 10 minutes
Duration:	30 – 60 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-380*	Effective: *August, 2004*	Revised:

PARAMEDIC

SUCCINYLCHOLINE	
Trade Names:	Anectine
Class:	Depolarizing Neuromuscular Blocker (Paralytic)
Therapeutic Action:	Paralysis of Diaphragm and Skeletal muscles throughout the body.
Mechanism of Action:	Binds with receptors at the motor end plate of skeletal, muscle and the diaphragm thereby blocking acetylcholine from attaching to the receptors. Because it binds to the receptors instead of blocking them; muscle fasiculations and some muscle contractions occur.
Indications:	o To facilitate intubation of patients which have an intact gag reflex o Termination of Laryngospasms
Contraindications:	o Penetrating eye injuries (Succ's ↑ intraocular pressure) o Unlikely to have a successful intubation o Neuromuscular Disease (Myasthenia Gravis) o Absence of Surgical Airway Skills o Narrow Angle Glaucoma (Succ's ↑ intraocular pressure) o Severe Uncontrolled Hypertension o Recent Trauma Surgery o Major unhealed burns <24 hours old o Hyperkalemia
Adverse/Side Affects:	o Muscle fasiculations o Hypersalivation (atropine?) o Bradycardia (atropine?) o Malignant Hyperpyrexia (rare, muscle rigidity, tachycardia, hypertension) o Trismus (locking of jaw & teeth clenching) Don't give more Anectine.
Drug Interactions:	o Oxytocin, Beta-blockers, Procainamide, Lidocaine, Magnesium salts and Organophosphates may potentiate effects. o Diazepam may reduce duration of action o Digoxin may cause dysrhythmias
Dosage:	**Adult/Ped:** 1 – 2mg/kg rapid IV
Onset:	Less than 1 minute
Duration:	4 – 6 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-400*	Effective: *August, 2004*	Revised:

PARAMEDIC

TETRACAINE	
Trade Names:	Tetracaine, Proparacaine, and Ophthaine
Class:	Ophthalmic Anesthetic
Therapeutic Action:	Suppresses sensory-input from conjunctiva and eye
Mechanism of Action:	Decreases ion (Na+) permeability by stabilizing neuronal membrane. Inhibits nerve impulses from sensory nerves.
Indications:	o Removal of foreign objects (non-impaled) o Placement of Morgan lenses during an eye flushing procedure.
Contraindications:	o Hypersensitivity to Paraaminobenzoic Acid o Caution with Hypothyroidism, Hypertension, CAD, Pregnancy
Adverse/Side Affects:	o Blurred Vision o Stinging o Burning o Lacrimation
Drug Interactions:	Decreases antibacterial action of sulfonamides
Dosage:	1 – 2 gtts in eye
Onset:	15 – 30 seconds
Duration:	15 – 20 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-410*	Effective: *August, 2004*	Revised:

PARAMEDIC

THIAMINE	
Trade Names:	Betaxin
Class:	Vitamin (B1)
Therapeutic Action:	Replenishes Thiamine stores in Malnourished Individuals.
Mechanism of Action:	Converts pyruvic acid to acetyl-coenzyme-A. This allows cells to use the glucose on hand to fuel the body. Prevents Wernicke's syndrome (acute & reversible encephalopathy) and Korsakoff's psychosis (mental derangement which may not be reversible). Combines with ATP to form Thiamine pyrophosphate coenzyme (carb metabolism).
Indications:	o Coma of unknown origin where alcohol use is possible o Delirium Tremens
Contraindications:	o None in the pre-hospital setting
Adverse/Side Affects:	o Hypotension o Dyspnea o Respiratory Failure o Nausea/Vomiting o Diaphoresis
Drug Interactions:	None in the pre-hospital setting
Dosage:	100mg slow IV or IM
Onset:	Rapidly
Duration:	Depends on Deficiency

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-415*	Effective: *August, 2016*	Revised:

PARAMEDIC

VANCOMYCIN	
Trade Names:	Vanocin
Class:	
Therapeutic Action:	A very potent tryicylic glycopeptide antibiotic, it is bactericidal against gram positive organisms.
Mechanism of Action:	
Indications:	• Serious gram positive infections, is effective against MRSA • Penicillin allergic patients • Endocarditis
Contraindications:	• Known Hypersensitivity • Corn products
Adverse/Side Affects:	• Chills • Dizziness • Fever • Fatique • Rash/urticari • Anaphylaxis • Flushing of the upper body (most common Redman Syndrome) • Easy bleeding or bruising • Diarrhea • Ringing in the ears • Change in the amount of urine • Pan-cytopnea
Drug Interactions:	
Dosage:	**Adult:** Physician ordered dose. 7.5 mg/kg every 6 hours or 15 mg/kg (1 gm) every 12 hours for 7-10 days **Peds:** Physician ordered dose. 40 mg/kg/24 hours Do not exceed 2 Gm in 24 hours
Onset:	
Duration:	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-420*	Effective: *August, 2004*	Revised: *June, 2009*

PARAMEDIC

VASOPRESSIN	
Trade Names:	Pitressin
Class:	Vasopressor, Hormone
Therapeutic Action:	Smooth muscle constriction results in blood being directed toward the vital organs along with increased return of spontaneous circulation without an increase in oxygen demand.
Mechanism of Action:	Acts by direct stimulation of smooth muscle receptors causing smooth muscle constriction. Minimal beta effects (Inotropy).
Indications:	o Cardiac Arrest o Esophageal Varicies
Contraindications:	o Chronic Nephritis o Ischemic Heart Disease, o PVC's
Adverse/Side Affects:	o Pallor o Abdominal Cramps o Nausea o Hypertension o Bradycardia o Cardiac Dysrhythmias o Heart Blocks, o AMI
Drug Interactions:	Alcohol, Epinephrine, Lithium, Neostigmine increases effects.
Dosage:	**Adult:** *Cardiac Arrest* 40 units IV, IO, ET **Adult:** *Varicies* 0.1 – 0.4 units/min. Max 1 – 2units/min IV infusion Mix 125units in 250ml NS = 0.5 units/ml **Peds:** Not Recommended
Onset:	Immediate
Duration:	Variable

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Grays Harbor Emergency Medical Services
Medication Protocol

No.*MED-430*	Effective: *August, 2004*	Revised:

PARAMEDIC

VECURONIUM	
Trade Names:	Norcuron
Class:	Non-Depolarizing Neuromuscular Blocker
Therapeutic Action:	Paralysis of diaphragmatic and skeletal muscles throughout the body.
Mechanism of Action:	A non-depolarizing neuromuscular blocker (NMB), blocks the receptor sites for Acetylcholine on the motor end plate (MEP), preventing stimulation of the muscle fibers.
Indications:	Intubated patients that are: o Bucking or fighting the endotracheal tube o Attempting to Extubate themselves o At risk of harming Paramedical Personnel o Trismus (locking of jaw and teeth clenching)
Contraindications:	o Myasthenia Gravis o Newborns o Patients with Unsecured Airways o Patients which require a neuro examination upon arrival to ER
Adverse/Side Affects:	o Apnea o Hypoxia o Hypercarbia o Profound Weakness
Drug Interactions:	Increased neuromuscular blockade: Clindamycin, Lincomycin, Quinidine, Polymyxin Antibiotics, Local Anesthetics, Lithium, Narcotics, Thiazides Dysrhythmias: Theophylline
Dosage:	**Adult/Children >9y/o:** 0.1mg/kg IV Maintenance – 0.01 – 0.015 mg/kg
Onset:	3 – 5 minutes
Duration:	45 minutes to 1 hour

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-435*	Effective: *August, 2012*	Revised:

PARAMEDIC

**** ALTERNATIVE MEDICATION ****

VERAPAMIL	
Trade Names:	Calan, Isoptin
Class:	Calcium channel blocker
Therapeutic Action:	
Mechanism of Action:	Slows conduction through the AV node, inhibits reentry during PSVT, decreases rate of ventricular response, decreases myocardial oxygen demand.
Indications:	• PSVT
Contraindications:	• Heart Block • Conduction system disturbances • Severe CHF • V-Tach • Severe Hypotension or Cardiogenic Shock
Adverse/Side Affects:	• Nausea/Vomiting • Extreme bradycardia • Asystole • AV block • Hypotension • Congestive heart failure • WPW
Drug Interactions:	• Other beta-blockers
Dosage:	**Adult:** 2.5-5.0 mg IV over 2-3 minutes, a repeat dose of 5-10mg may be given after 15-30 minutes if PSVT does not convert. Maxiumum dose is 20mg. **Peds:** 0.1-0.2 mg/kg slow IV with a maximum of 2.0 mg.
Onset:	1-3 minutes
Duration:	2-5 Hours

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-440*	Effective: *August, 2004*	Revised:

PARAMEDIC

XYLOCAINE JELLY (2%)	
Trade Names:	None
Class:	Topical Anesthetic
Therapeutic Action:	
Mechanism of Action:	
Indications:	o Nasal/Oral Endotracheal Intubation. o Nasogastric tube placement
Contraindications:	o Known hypersensitivity to local Anesthetics.
Adverse/Side Affects:	o Impaired swallowing may lead to aspiration. o Numbness of tongue or buccal mucosa may enhance possibility of unintentional biting trauma. o Allergic Reaction o Bradycardia o Hypotension o Drowsiness o Blurred/Double Vision o Light Headedness
Drug Interactions:	
Dosage:	Apply moderate amount to external surfaces of endotracheal / nasogastric tubes prior to placement.
Onset:	3 – 5 minutes after contact with topical region or mucosa.
Duration:	1.5 – 2.0 hours. Can vary with dosage and site of application.

Caution:
Reduce dose with elderly/young.
Wear protective gloves when handling to prevent numbing.
Do not apply to stylet or inner lumens of ET or Nasogastric tubes.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *MED-450*	Effective: *August, 2008*	Revised:

PARAMEDIC

ZOFRAN	
Trade Names:	Ondansetron
Class:	Antiemetic
Therapeutic Action:	
Mechanism of Action:	Selective 5-HT3 receptor antagonist, blocking serotonin, both peripherally on vagal nerve terminals and centrally in the chemoreceptor trigger zone.
Indications:	o Nausea and Vomiting
Contraindications:	o Known hypersensitivity to medication or similar medications such as Anzemet or Kytril. o Decreased liver function o Intestinal obstruction o Cardiac arrhythmias
Adverse/Side Affects:	o Headache o Fatigue o Fever o Dizziness o Diarrhea o Hypoxia o Rash
Drug Interactions:	Apomorphine
Dosage:	**Adult:** 2-4 mg IV, IM. Repeat once after 2 minutes as needed. **Peds: (6 months – 18 years)** 0.15 mg/kg repeated up to 3 times or a maximum single dose of 0.45 mg/kg
Onset:	30 minutes
Duration:	2 Hours

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GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOL MANUAL

-- Inter-Facility Transport Protocols –

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Grays Harbor Emergency Medical Services
Patient Care Protocols

No. *IFT-PCP-001*	Effective: *August, 2017*	Revised:

Inter-Facility Transports

Inter-facility transport may occur at either the BLS or ALS level within the following categories and under the following guidelines:

1. Transfer between hospitals for admission for services not available at the initial hospital.
2. Transport of patient to another facility for diagnostic evaluations with return to the initial facility.
3. Transport from an acute care facility to an extended care facility.
4. Transport of patient between facilities at the patient's request.
5. Transport of Mental Health patients to a state designated psychiatric facility.

As a general rule, it is the responsibility of the transferring facility to insure that medical necessities for safe patient transfer are met. Medical instructions and orders of the attending physician will be followed unless specifically contrary to standing orders. If the attending physician accompanies the patient during the transfer, he/she may assume complete authority and direct all care. Medical Control should be aware and in agreement.

Registered nurses who accompany patients on inter-facility transports must have orders to give medications, as they do not have coverage under pre-hospital WAC to do so. Such orders may come from the attending physician, on-line Medical Control, or by the receiving physician. If orders are verbal, they should be clearly documented as such in the pre-hospital patient care record. Further, if an RN attends a patient for an ALS transfer, a Grays Harbor County certified EMT-Paramedic shall accompany the patient. The authority of primary patient care will reside with the nurses accompanying the EMS providers. However, primary patient care will be transferred to the ALS Providers under the following circumstances:

1. The patient request for the paramedic to take over primary patient care
2. Patient presentation deteriorates to the level that prehospital skill intervention is required for stabilization (example: placement of advanced airway)

The responsibility for arranging transfer to another facility resides with the transferring facility. In general patients will not be transferred to another facility without first being stabilized. Stabilization should include adequate evaluation and initiation of treatment to assure that transfer of the patient will not, within reasonable medical probability, result in material deterioration of the medical condition, death, or loss or serious impairment of

bodily functions, parts or organs. Evaluation and treatment of patients prior to transfer should include the following:

1. Establish and assure an adequate airway and adequate ventilation;
2. Initiate control of hemorrhage;
3. Stabilize and splint the spine and/or fractures;
4. Establish and maintain adequate access routes for fluid and/or medication administration;
5. Initiate adequate fluid and/or blood product replacement;
6. Determine that the patient's vital signs (including pulse, respiration, blood pressure and urinary output, if indicated) are sufficient to sustain adequate tissue perfusion.

It is understood that circumstances may arise for which full stabilization is not possible or appropriate; however, the potential benefits of transfer should outweigh the risks. It is, further, the transferring facility's responsibility to establish the need for BLS or ALS care.

For ALS calls not meeting the criteria consistent with these protocols or stabilization prior to inter-facility transport, Medical Control shall be contacted and the following may apply:

1. You may initiate pre-hospital protocols and guidelines as appropriate including the establishment of intravenous lines, airway control, vasopressor support, etc.

2. ALS providers shall contact Medical Control for all medications and/or medical equipment not approved within these protocols. When transporting patients with medications and or equipment not being covered by these protocols, providers shall obtain the appropriate information concerning the medication or equipment (i.e. indications, contraindications, side effects, dosages etc.) and consult with Medical Control.

3. You may refuse to transfer the patient until the facility complies with the previously noted evaluation and/or treatment. Should you decide this is necessary, contact online Medical Control for concurrence and consultation or contact the MPD directly, if available.

If BLS transport is requested and it is the judgment of the BLS crew that the patient needs ALS support, it is mandated that ALS level care be dispatched and Medical Control contacted. Under no circumstances (except as noted) should a BLS crew transport a patient, if in their judgment; this is an ALS level transport. (The only exception is a disaster/multi-casualty incident with exhaustion of county and air transport ALS capabilities).

Inter-Facility Transports Cont.

The subsequent medications in this section are to be utilized during Inter-Facility Transports and not in the pre-hospital setting.

Medical instructions and orders, including medication administration, will be at the discretion of the attending physician and will be followed unless specifically contrary to standing orders. Dosages and infusion rates are to be determined by attending physician and not to be changed by the transporting agency unless otherwise directed by medical control.

In the event an emergency occurs enroute, which was not anticipated, pre-hospital patient care protocols will immediately apply. Medical Control should be contacted as appropriate and the receiving facility should be contacted as soon as possible to inform them of changes in the patient's condition.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-010*	Effective: *August, 2017*	Revised:

PARAMEDIC

IV ANTIBIOTICS	
Examples:	Penicillin, Ampicillin, Amoxicillin, Piperacillin and Tazobactam (Zosyn), Ampicillin and Sulbactam (Unasyn)
Class:	Beta-lactam
Mechanism of Action:	Binds to and inactivates enzymes required for bacterial wall synthesis. Penicillins are used for disease due to gram-positive organisms and some gram-negative cocci. These medications are inexpensive but can cause life-threatening anaphylactic reactions in those who are allergic.
Indications:	○ Bacterial infections such as syphilis, endocarditis, respiratory tract infections, bacterial meningitis, urinary tract infections, and gastrointestinal infections
Contraindications:	○ Known allergy/hypersensitivity
Adverse/Side Affects:	○ Nausea, vomiting, diarrhea, and rash
Drug Interactions:	Ampicillin is incompatible with D5W, dopamine, diphenhydramine, lorazepam, midazolam, ondansetron, and sodium bicarbonate.
Dosage:	Dose is influenced by patient weight, but ampicillin is typically 500 mg every 6 hours. Administered in 10-15 minutes.

Examples:	Cephalexin (Keflex), Cefazolin (Ancef), Ceftriaxone (Rocephin)
Class:	Cephalosporin/Beta-lactam
Mechanism of Action:	Binds to and inactivates enzymes required for bacterial wall synthesis. Used with both gram-positive and gram-negative activity. These typically do not produce and anaphylactic reactions, but people can be allergic to them.
Indications:	○ Cholecystis, urinary tract infections, and cellulitis
Contraindications:	○ Known allergy/hypersensitivity ○ Known allergy/hypersensitivity to penicillin
Adverse/Side Affects:	○ Pain at injection site, headache, nausea, vomiting, seizures
Drug Interactions:	Ceftriaxone is incompatible with amiodarone, diltiazem, morphine, and sodium bicarbonate.
Dosage:	Ceftriaxone (Rocephin) dose is 1 to 2 grams IV over 30 minutes

Examples:	Ciprofloxacin (Cipro), Levofloxacin (Levaquin), Moxifloxacin (Avelox)
Class:	Quinolone
Therapeutic action:	Broad spectrum antibiotic that plays an important role in treatment of serious bacterial infections, especially hospital-acquired infections and others in which resistance to older antibacterial classes is suspected.
Indications:	o Hospital acquired pneumonia, urinary tract infection, pyelonephritis
Contraindications:	o Known allergy/hypersensitivity o Certain disorders that predispose to arrhythmias such as prolonged QT syndrome, hypokalemia, hypomagnesemia, and significant bradycardia
Adverse/Side Affects:	o Nausea, diarrhea, abdominal pain, headache, dizziness, tendonitis, and tendon rupture
Drug Interactions:	Use caution with other medications that prolong QT interval. Can cause QT prolongation
Dosage:	Ciprofloxacin (Cipro)-400 mg, Levofloxacin (Levaquin)-500 mg, Moxifloxacin (Avelox)-400 mg. All over 60 minutes

Examples:	Sulfamethoxazole and Trimehoprim (Bactrim) (Septra)
Class:	Sulfonamide
Therapeutic action:	One of a group of drugs derived from sulphanilamide that prevents the growth of bacteria.
Indications:	o Severe urinary tract infection, prophylaxis for immunosuppressed, MRSA, and other skin infections
Contraindications:	o Known allergy/hypersensitivity
Adverse/Side Affects:	o Nausea, vomiting, and rash are most frequent
Drug Interactions:	Incompatible with diltiazem, lorazepam, magnesium sulfate, and morphine
Dosage:	10-20 mg/kg/24 hours spread over 6 or 12 hours. Administered in 60-90 minutes

Examples:	Azithromycin (Zithromax)
Class:	Macrolide
Therapeutic action:	Action is primarily bacteriostatic but may be bactericidal at high concentrations, or depending on the type of microorganism
Indications:	○ Community-acquired pneumonia, pelvic inflammatory disease
Contraindications:	○ Known allergy/hypersensitivity ○ Known allergy/hypersensitivity to erythromycin, any macrolide, or ketolide drug ○ Hepatic dysfunction- history of cholestatic jaundice/hepatic dysfunction associated with prior use of azithromycin
Adverse/Side Affects:	○ Usually mild to moderate in severity and reversible after discontinuation-abdominal pain, arrhythmias, cough, dizziness, dyspnea, facial edema, hypotension, injection site pain, rash, and vomiting
Drug Interactions:	Incompatible with amiodarone and midazolam
Dosage:	500 mg over at least 1 hour

Examples:	Metronidazole (Flagyl)
Class:	Nitroimidazoles
Therapeutic action:	Works by stopping the growth of bacteria and protozoa
Indications:	○ Used to treat bacterial infections of the vagina, GI tract, skin, joints, and respiratory tract
Contraindications:	○ Known allergy/hypersensitivity ○ Known allergy/ hypersensitivity to other nitroimidazole derivatives.
Adverse/Side Affects:	○ Most serious include-aseptic meningitis, encephalopathy, optic and peripheral neuropathy. Others include-abdominal cramping, dizziness, dry mouth, epigastric distress, fever, flushing, metallic taste (expected), nausea, rash, seizures, and Stevens-Johnson Syndrome
Drug Interactions:	Incompatible with diltiazem, dopamine, lorazepam, magnesium sulfate, methylprednisolone, midazolam, morphine, and vasopressin
Dosage:	15 mg/kg over 1 hour

Examples:	Gentamicin
Class:	Aminoglycoside
Therapeutic action:	Used to treat a wide variety of bacterial infections. Works by stopping the growth of bacteria
Indications:	**Severe Gram-Negative Infections:** ○ Upper and lower urinary tract infections ○ Burn and wound infections ○ Septicaemia, Bacteraemia ○ Abscesses

	○ Subacute Bacterial Endocarditis ○ Respiratory Tract infections (Bronchopneumonia) ○ Neonatal infections ○ Gynaecological infections **Gram-Positive Infections:** ○ Bacteraemia ○ Abscesses ○ Accidental and operative trauma ○ Burns and serious skin lesions
Contraindications:	○ Known allergy/hypersensitivity to gentamicin, any other ingredient or other aminoglycosides ○ Myasthenia gravis ○ Gentamicin should be used with caution in premature infants because of their renal immaturity, in elderly people, and generally in patients with impaired renal function.
Adverse/Side Affects:	○ Nausea, vomiting, stomach upset, or loss of appetite. Pain/irritation/redness at injection site
Drug Interactions:	Avoid use with Furosemide. May potentiate neuromuscular blockade
Dosage:	1mg/kg IM or IV every 8 hours; max 5mg/kg/day

Examples:	Levofloxacin (Levaquin)
Class:	Fluoroquinolone
Therapeutic action:	Broad-spectrum antibiotic that plays an important role in treatment of serious bacterial infections, especially hospital-acquired infections and others in which resistance to older antibacterial classes is suspected
Indications:	Hospital acquired pneumonia, UTI, pyelonephritis
Contraindications:	○ Known allergy/hypersensitivity to drug or other histamine2-receptor antagonists
Adverse/Side Affects:	○ Nausea ○ Diarrhea ○ Abdominal pain ○ Headache ○ Dizziness ○ Tendonitis ○ Tendon rupture
Drug Interactions:	Can cause QT prolongation, use caution with other medications that prolong QT interval
Dosage:	Adult: 500 mg

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-020*	Effective: *August, 2017*	Revised:

PARAMEDIC

ETOMIDATE	
Trade Names:	Amidate
Class:	Non-narcotic, non-barbiturate, sedative hypnotic
Therapeutic Action:	Depresses the activity of the brain stem reticular system
Mechanism of Action:	May lower intraocular and intracranial pressure, and lower the rate of cerebral oxygen utilization, all with minimal cardiovascular and respiratory depressant effects.
Indications:	• Induction agent for RSI in adults and pediatric patients10 years old or older. • Sedation prior to cardioversion.
Contraindications:	• Hypersensitivity to the agent. • Not recommended for pregnant or nursing mothers
Adverse/Side Affects:	• Nausea/Vomiting • Painful myoclonus (diffuse muscle contractions). This can be reduced by giving muscle relaxant immediately after Etomidate is given. • Pain at the injection site. • Apnea • Hypotension • Tachycardia
Drug Interactions:	• Synergistic effect with other anesthetics, sedatives, hypnotics and/or opiates
Dosage:	**Adult:** **Induction agent –** 0.3 mg/kg IV/IO push over 30-60 seconds. **Sedation agent –** 0.1 mg/kg IV/IO. **Peds:** 0.3 mg/kg IV/IO push over 30-60 seconds. Max dose: 20 mg.
Onset:	Within 10-60 seconds
Duration:	Dose dependent but can be 3-5 minutes with full recovery in 15 minutes.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-030*	Effective: *August, 2016*	Revised: *August, 2017*

PARAMEDIC

HEPARIN DRIP

Trade Names:	Heparin
Class:	Anticoagulant
Therapeutic Action:	Prevent the formation, and treatment of blood clots
Mechanism of Action:	Acts at multiple sites in coagulation process; binds to antithrombin III, catalyzing inactivation of thrombin and other clotting factors
Indications:	• Acute myocardial infarction • DVT (deep vein thrombosis) • DIC (disseminated intravascular coagulation) • Pulmonary embolism • Atrial fibrillation(to prevent the formation of blood clots) • Prophylactically for prevention of blood clots
Contraindications:	•
Adverse/Side Affects:	• Care should be used when handling patient who are receiving Heparin infusion, as rough handling can cause bleeding • Heparin should not be used with patients who are actively bleeding • Heparin should not be used on patients with known or suspected intracranial hemorrhage • Concurrent use of Heparin and oral anticoagulants, thrombolytic and salicylates or IIb/IIIa antagonists may increase the chances of bleeding and some patients may be on 2 or more agents
Drug Interactions:	If patient has history of HIT Antibodies, do not give. HIT Antibodies = Heparin induced Thrombocytopenia. It is not a rare disorder so ask patient if they have a positive history of it.
Dosage:	Continue Heparin infusion at rate set by transferring physician Recommended mixing instructions are 25,000 units in 250 cc of NS Heparin may be mixed in either NS or D5W.
Onset:	
Duration:	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-040*	Effective: *August, 2017*	Revised:

			PARAMEDIC

Continuous Insulin Drip Therapy	
Trade Names:	Insulin
Class:	Hormone
Therapeutic Action:	Decrease blood glucose concentration
Mechanism of Action:	Increases glucose metabolism by cells, to increase glycogen levels, and to decrease blood glucose concentration toward normal levels. Insulin acts as an antagonist to glucagon
Indications:	• DKA (Diabetic Ketoacidosis) • Hyperglycemia BS > 200 • Hyperkalemia
Contraindications:	• Hypoglycemia
Adverse/Side Affects:	• Hypoglycemia • Hypokalemia • Blurred vision • Confusion • Nausea • Diaphorisis • Heart Palpitations • Tremors • Irritability • Loss of consciousness • Anaphylaxis
Drug Interactions:	• Hypokalemia (low blood potassium) may occur. Insulin stimulates movement of potassium from blood into cells. Combining insulin with potassium lowering drugs may increase the risk of hypokalemia.
Dosage:	• Dose to be determined by transferring physician • Rate should not require adjusting during transfer. • Insulin infusion concentrations are generally 1 unit per 1 ml, confirm any variations with sending Physician. • Blood sugar shall be checked at a minimum of twice per transport once when assuming care and just prior to arrival of receiving facility.
Onset:	5-10 minutes
Duration:	Half life 5-10 minutes

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-045*	Effective: *August, 2017*	Revised:

PARAMEDIC

Integrilin	
Trade Names:	Eptifibatide
Class:	Antiplatelet
Therapeutic Action:	Inhibits platelet aggregation and thus intravascular obstruction
Mechanism of Action:	Inhibits platelet function (glycoprotein IIb/IIIa inhabitor).
Indications:	• Acute coronary syndrome/acute MI. Integrilin will not be initiated during field response but will be administration on physician orders during transfers of STEMI or other ACS patients.
Contraindications:	• Active GI, GNS or other hemorrhage • Stroke within 30 days or history of hemorrhagic stroke • Recent major surgery • Dialysis or renal failure • Thrombocytopenia • SBP >200 or DBP >110
Adverse/Side Affects:	• Bleeding, including at IV site • Hypotension
Drug Interactions:	• Use caution with thrombolytics • Synergistic effect with other platelet inhibitors
Dosage:	**Adult:** IV Bolus 180 mcg/kg followed by IV infusion at 2 mcg/kg/min with a second IV bolus of 180 mcg/kg given 10 minutes after initial bolus. 1. Do not shake vail, do not administer if particles or discoloration are present in vail. 2. Bolus should be administered over 2 minutes 3. Infusion should be via pump and rate should be set/infusion started prior to transfer of care. 4. EMS may administer second IV bolus if this expedites transport.
Onset:	1-hour
Duration:	Up 4 hours after discontinuation

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-060*	Effective: *August, 2017*	Revised:

PARAMEDIC

NICARDIPINE HYDROCHLORIDE	
Trade Names:	Cardene
Class:	Calcium channel blocker; Antihypertensive
Therapeutic Action:	• Produces significant reduction in systemic vascular resistance.
Mechanism of Action:	• Inhibits influx of calcium ions into cardiac and smooth muscles without changing serum calcium concentrations.
Indications:	• Acute hypertension requiring acute blood pressure control.
Contraindications:	• Hypersensitivity to the agent. • Pt's. with advanced aortic stenosis • Heart blocks • Renal failure • Recent AMI
Adverse/Side Affects:	• Nausea/Vomiting • Headache • Tachycardia • Symptomatic hypotension • Angina • Confusion • Rash
Drug Interactions:	• Beta blockers – Titrate slowly in Pt's. with heart failure.
Dosage:	5 mg/hour IV infusion, then increase by 2.5 mg/hour every 15 minutes to desired BP reduction, or a maximum of 15 mg/hour. • **Do not mix with NaHCO3 or LR or Magnesium Sulfate**
Onset:	5-15 minutes
Duration:	15-30 minutes; may exceed 4 hours

If concentration is 25mg/250ml:	If concentration is 40mg/250ml:
• 5 mg/hour = 50 ml/hour • 7.5 mg/hour = 75 ml/hour • 10 mg/hour = 100 ml/hour • 12.5 mg/hour = 125 ml/hour • 15 mg/hour = 150 ml/hour	• 5 mg/hour = 25 ml/hour • 7.5 mg/hour = 37.5 ml/hour • 10 mg/hour = 50 ml/hour • 12.5 mg/hour = 62.5 ml/hour • 15 mg/hour = 75 ml/hour

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-065*	Effective: *August, 2016*	Revised: *August, 2017*

PARAMEDIC

NITROGLYCERIN DRIP	
Trade Names:	Nitroglycerin, Nitrostate
Class:	Vasodilator
Therapeutic Action:	• Decreased preload; reduces venous tone, decreasing venous load on the heart • Reduces cardiac oxygen demand • Decreases afterload; reduces peripheral vascular resistance • Increases myocardial oxygen supply; causes dilation of coronary arteries and relief of coronary artery spasm.
Mechanism of Action:	Relaxes vascular smooth muscle
Indications:	• Chest pain secondary to presumed cardiac ischemia, acute coronary syndrome or acute myocardial infarction • Acute pulmonary edema/CHF
Contraindications:	

Adverse/Side Affects:	• Peripheral vasodilation can cause profound hypotension and reflex tachycardia
	• Common side effects
	  ○ Throbbing headaches
	  ○ Flushing
	  ○ Dizziness
	• Less common side effects
	  ○ Orthostatic hypotension, sometimes marked
	• Nitroglycerin does not provide controlled hypotension
	• Because nitroglycerin causes smooth muscle relaxation, it may be effective in relieving chest pain caused by esophageal spasm
	• Decreases cardiac preload so caution with valvular disease (i.e. mitral stenosis or aortic stenosis). Extreme caution with inferior wall MIs and suspected right ventricular involvement.

Drug Interactions:	
Dosage:	• Continuing nitroglycerin infusion at rate sets by transferring physician • Dosing chart: See table 1 for example charts. Nitroglycerin may be mixed in either NS or D5W • If pain resolves completely, maintain drip at current ate of administration • If pain continues, increase drip by 5-10 mcg/min every 5 minutes until pain resolves or systolic BP falls below 90 mmHg • Maximum does for nitroglycerin is 200 mcg/min • If systolic PB falls below 90 mmHg during titration, decrease the drip rate by 10 mcg and give 250 mL NS bolus IV • If BP remains below 90 mmHg, discontinue drip

	• Vital sign must be rechecked q 5-10 minutes and after each dosing change.
Onset:	
Duration:	

Nitroglycerin Conversion Table

Strength:	25 mg/250mL	50 mg/250 mL	100 mg/250 mL	50 mg/500 mL
	100 mcg/1 mL	200 mcg/1 mL	400 mcg/1 mL	100 mcg/1 mL
Dose Ordered:				
5 mcg/min	3 mL/hr	1.5 mL/hr	0.75 mL/hr	3 mL/hr
10	6 mL/hr	3 mL/hr	1.5 mL/hr	6 mL/hr
15	9 mL/hr	1.5 mL/hr	0.75 mL/hr	9 mL/hr
20	12 mL/hr	4 mL/hr	1.5 mL/hr	12 mL/hr
25	15 mL/hr	1.5 mL/hr	0.75 mL/hr	15 mL/hr
30	18 mL/hr	5 mL/hr	1.5 mL/hr	18 mL/hr
35	21 mL/hr	1.5 mL/hr	0.75 mL/hr	21 mL/hr
40	24 mL/hr	6 mL/hr	1.5 mL/hr	24 mL/hr
45	27 mL/hr	1.5 mL/hr	0.75 mL/hr	27 mL/hr
50	30 mL/hr	7 mL/hr	1.5 mL/hr	30 mL/hr
55	33 mL/hr	1.5 mL/hr	0.75 mL/hr	33 mL/hr
60	36 mL/hr	8 mL/hr	1.5 mL/hr	36 mL/hr
65	39 mL/hr	1.5 mL/hr	0.75 mL/hr	39 mL/hr
70	42 mL/hr	9 mL/hr	1.5 mL/hr	42 mL/hr
75	45 mL/hr	1.5 mL/hr	0.75 mL/hr	45 mL/hr
80	48 mL/hr	10 mL/hr	1.5 mL/hr	48 mL/hr
85	51 mL/hr	1.5 mL/hr	0.75 mL/hr	51 mL/hr
90	54 mL/hr	11 mL/hr	1.5 mL/hr	54 mL/hr
95	57 mL/hr	1.5 mL/hr	0.75 mL/hr	57 mL/hr
100	60 mL/hr	12 mL/hr	1.5 mL/hr	60 mL/hr

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-070*	Effective: *August, 2016*	Revised: *August, 2017*

PARAMEDIC

NOREPINEPHRINE	
Trade Names:	Levophed
Class:	Adreneric vasopressor
Therapeutic Action:	Primary alpha adrenergic vasoconstrictor
Mechanism of Action:	Vasoconstriction; increases peripheral vascular resistance, increases BP, decreases renal and mesenteric perfusion Beta -1 adrenergic: increases inotropy
Indications:	• Hypotension • Sepsis • Shock persisting after adequate fluid volume replacement
Contraindications:	• Hypertension • Given prior to fluids for uncorrected hypotension
Adverse/Side Affects:	• Headache • Palpitations • Tachycardia • Chest Pain • Eventual Hypertension • Bradycardia an result reflexively from an increase in blood pressure.
Drug Interactions:	
Dosage:	Start at 2-4mcg/minute – se dosage chart – titrated to a systolic B/P ≥ 100mmHg. Maximum infusion rate is 12 mcg/minute.
Onset:	Rapid
Duration:	1 to 2 minutes after discontinuation of IV dosing

DOSAGE Chart

Indication	Dose	Route(s)	Special
Adult			**MIXING/ADMINISTRATION ADULT AND PEDIATRIC:** Add one 4 mg ampule to 1000 mL of NS or D5W. Administer via infusion pump ONLY.
Septic, cardiogenic, neurogenic, and obstructive shock	Begin at 4 mcg/min. If no response, increase every 5 min in 4 mcg/min. increments to MAX 12 mcg/min	IV/IO	
Pediatric			
Septic, cardiogenic, neurogenic, and obstructive shock	Begin at 0.1 mcg/kg/min. If no response in 5 min. increase to 0.2 mcg/kg/mi. IF still no response after 5 more min., may incrase to 0.4 mcg/kg/min. Increase all subsequent doses 0.2 mcg/kg/min. every 5 min to MAX does of 2 mcg/kg/min. Goal is age appropriate systolic blood pressure.	IV/IO	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-080*	Effective: *August, 2016*	Revised: *August, 2017*

PARAMEDIC

PANTOPRAZOL	
Trade Names:	Protonix
Class:	Proton Pump Inhibitor
Therapeutic Action:	A proton pump inhibitor that suppresses the final step in gastric acid production.
Mechanism of Action:	
Indications:	• History of GERD with or without history of erosive esophagitis. • Maintenance of Healing of Erosive Esophagitis • Patholigical Hypersecretory Conditions including Zollinger-Ellison syndrome
Contraindications:	• Known Hypersensitivity
Adverse/Side Affects:	• Headache • Abdominal Pain • Chest Pain • Dyspnea • Hemorrhage • Diarrhea • Nausea • Vomiting • Dizziness • Rash
Drug Interactions:	
Dosage:	**<u>Adult</u>:** 40mg IV/IO once **<u>Peds:</u> Children 5 years and older (short term treatment of erosive esophagitis associated with GERD)** 33 lbs – 88 lbs. 20 mg IV/IO once Greater than 88 lbs. 40 mg IV/IO once
Onset:	
Duration:	

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-085*	Effective: *August, 2017*	Revised:

PARAMEDIC

Continuous Potassium Drip Therapy	
Trade Names:	Potassium Chloride (KCI)
Class:	Electrolyte
Therapeutic Action:	Replenishes Potassium when oral Potassium is not possible
Mechanism of Action:	Potassium plays an important role in muscle contraction, enzyme action, nerve impulses, and cell membrane function. Potassium imbalances interfere with neuromuscular function and may cause cardiac rhythm disturbances including sudden death.
Indications:	• Treatment of Potassium depletion in patients with Hypokalemia when oral replacement is not feasible. • Treatment of digitalis intoxication
Contraindications:	• Renal Impairment • Untreated Addisons Disease • Hyperadrenalism • Severe Burns • Hyperkalemia of any etiology
Adverse/Side Affects:	• Fever • Venous thrombosis, infection at injection site • Extravasation, phlebitis, pain at injection site • Hypervolemia • Hyperkalemia • Abdominal Pain • Nausea Vomiting • Paresthesias of extremeties • ECG Abnormalities • Mental Confusion • Hypotention Discontinue if IV infiltrates Discontinue if widening QRS Discontinue if Ventricular dysrhythmias Discontinue if Mechanical pump fails Discontinue if Allergic reaction
Drug Interactions:	• Cardiac arrest can occur with high potassium conditions, such as chronic renal failure, burns, acidosis dehydration, and potassium sparing diuretic usage such as spironolactone. • Drug interactions causing elevation of potassium can occur with ACE inhibitors (Used to treat HTN) and certain diuretics.

Dosage:	MUST BE DILUTED BEFORE ADMINISTRATION Dose to be determined by transferring Physician only Do not exceed 10mEq/hour through peripheral line. Do not exceed 20mEq/hour via central line or Med Port For serum potassium level >2.5mEq/L Continuous IV infusion:10mEq/hour in a concentration up to 40mEq/L. Max dose of 200mEq/day For serum potassium level<2.0 with ECG changes and or muscle paralysis, potassium chloride may be administered at a rate up to 40mEq/hour.
Onset:	5-15 minutes
Duration:	Dose dependent up to 4 hours after IV Administration

Note: Patients receiving >10 mEq/hour must be on cardiac monitor

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-090*	Effective: *August, 2017*	Revised:

			PARAMEDIC

Thrombolytic Therapy	
Trade Names:	Streptokinase, Alteplase (Activase), Urokinase,
Class:	Plasminogen Activator/Thrombolytic Enzyme
Therapeutic Action:	Degrades the fibrin matrix of the intravascular thrombus enhancing blood flow
Mechanism of Action:	Thrombolytic Action: Streptokinase promotes thrombolysis by activating plasminogen in two (2) steps. First, plasminogen and streptokinase for a complex, exposing plasminogen-activating site and secondly, cleavage of peptide bond converts plasminogen to plasmin.
Indications:	• Acute MI. • Pulmonary Embolism. • Acute CVA.
Contraindications:	• Intracranial aneurysm or AVM. • Intracranial surgery or trauma w/in 3 mo. • Intraspinal surgery or trauma w/in 3 mo. • HTN, severe uncontrolled. • Stroke w/in 3 mo. • Active Internal Bleeding. • Intracranial neoplasm. • Chronic hepatic or renal insufficiency.
Adverse/Side Affects:	• Minor hemorrhages from IV site and gums. • Major hemorrhage from GI and intracranial or spinal sites. • Reperfusion dysrhythmias often occur about 30-60 minutes after starting infusion. • Allergic reactions including anaphylaxis may occur with Streptokinase or APSAC.
Drug Interactions:	• Aminocaproic Acid; inhibits the effects on plasminogen activation. • Anti-coagulants; may cause severe hemorrhage if used in conjunction. • Drug-herb; may cause severe hemorrhage if used in conjunction.
Dosage:	Dose to be determined by transferring physician (determined by patient weight and indication for therapy). Rate should not require adjusting during transfer.
Onset:	Immediate (IV); peak effectiveness 20 min-2 hours.
Duration:	4 hours.

Trade Names:	Tenecteplase (TNK)
Class:	Tissue plasminogen activator.
Therapeutic Action:	Promotes thrombolysis by converting plasminogen to plasmin which degrades fibrin and fibrinogen.
Mechanism of Action:	Genetically engineered variant of alteplase with multiple point mutations of tPA molecule resulting in longer plasma half-life, enhanced fibrin specificity and increased resistance to inactivation by plasminogen activator inhibitor 1.
Indications:	• Acute MI. • Lysis of intracoronary emboli.
Contraindications:	• Intracranial aneurysm or AVM. • Intracranial surgery or trauma w/in 3 mo. • Intraspinal surgery or trauma w/in 3 mo. • HTN, severe uncontrolled. • Stroke w/in 3 mo. • Active Internal Bleeding. • Intracranial neoplasm. • Chronic hepatic or renal insufficiency
Adverse/Side Affects:	• Minor hemorrhages from IV site and gums. • Collection of blood under skin. • Bloody or black, tarry stools. • Allergic reactions including anaphylaxis may occur with Streptokinase or APSAC.
Drug Interactions:	• Anti-coagulants; may cause severe hemorrhage if used in conjunction.
Dosage:	Weight based one-time dose, administered over 5 seconds: • <60 kg (30 mg) • 60 kg-<70 kg (35 mg) • 70 kg-<80 kg (40 mg) • 80 kg-<90 kg (45 mg) • 90+ kg (50 mg) Occasionally used as a continuous infusion for peripheral arterial thrombus 0.25 mg – 0.50 mg/hour; up to 48 hours.
Onset:	30 minutes (IV)
Duration:	2-4 hours.

Trade Names:	Retevase
Class:	Tissue Plasminogen Activator
Therapeutic Action:	Promotes thrombolysis by converting plasminogen to plasmin which degrades fibrin and fibrinogen.
Mechanism of Action:	Thrombolytic Action: Reteplase catalyzes the cleavage of endogenous plasminogen to generate plasmin, which in turn degrades the fibrin matrix of the thrombus, resulting in thrombolysis.
Indications:	• Acute MI. • Heart Failure.
Contraindications:	• Intracranial aneurysm or AVM. • Intracranial surgery or trauma w/in 3 mo. • Intraspinal surgery or trauma w/in 3 mo. • HTN, severe uncontrolled. • Stroke w/in 3 mo. • Active Internal Bleeding. • Intracranial neoplasm. • Chronic hepatic or renal insufficiency
Adverse/Side Affects:	• Sudden numbness or weakness, especially on one side of the body. • Sudden headache, confusion, problems with vision, speech or balance. • Chest pain, sudden cough, wheezing, rapid breathing. • Syncope. • Weak pulse, fainting, slow breathing.
Drug Interactions:	• Heparin; increased chance of bleeding. • Anti-coagulants; may cause hemorrhage if used prior to Retevase.
Dosage:	10 unit initial dose; over 2 minutes. Second dose of 10 units given 30 minutes later. No information on continuous infusion available.
Onset:	Information not readily available.
Duration:	30-35 minutes.

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Grays Harbor Emergency Medical Services
Medication Protocol

No. *IFT-MED-095*	Effective: *August, 2016*	Revised: *August, 2017*

PARAMEDIC

VANCOMYCIN	
Trade Names:	Vanocin
Class:	
Therapeutic Action:	A very potent tryicylic glycopeptide antibiotic, it is bactericidal against gram positive organisms.
Mechanism of Action:	
Indications:	• Serious gram positive infections, is effective against MRSA • Penicillin allergic patients • Endocarditis
Contraindications:	• Known Hypersensitivity • Corn products
Adverse/Side Affects:	• Chills • Dizziness • Fever • Fatique • Rash/urticari • Anaphylaxis • Flushing of the upper body (most common Redman Syndrome) • Easy bleeding or bruising • Diarrhea • Ringing in the ears • Change in the amount of urine • Pan-cytopnea
Drug Interactions:	
Dosage:	**Adult:** Physician ordered dose. 7.5 mg/kg every 6 hours or 15 mg/kg (1 gm) every 12 hours for 7-10 days **Peds:** Physician ordered dose. 40 mg/kg/24 hours Do not exceed 2 Gm in 24 hours
Onset:	
Duration:	

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GRAYS HARBOR EMERGENCY MEDICAL SERVICES

PATIENT CARE PROTOCOL MANUAL

--Common Medical Abbreviations--

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Grays Harbor Emergency Medical Services
Patient Care Protocols

Common Medical Abbreviations

Abbreviation	Meaning
$\bar{a}$	before
AAA	Abdominal Aortic Aneurysm
AED	Automated External Defibrillator
ALOC	Altered Level of Consciousness
ASA	Aspirin
AMA	Against Medical Advice
AMI	Acute Myocardial Infarction
BP	Blood Pressure
BSI	Body Substance Isolation
BSL	Blood Sugar Level
BVM	Bag Valve Mask
$\bar{c}$	with
CC or C/C	chief complaint
c/o	complaining of
CHF	Congestive Heart Failure
CNS	Central Nervous System
COPD	Chronic Obstructive Pulmonary Disease
CPAP	Continuous Positive Airway Pressure
CPR	Cardiopulmonary Resuscitation
CQI	Continuous Quality Improvement
CSF	Cerebrospinal Fluid
CVA	Cerebrovascular Attack
DNR	Do Not Resuscitate
DOA	Dead on Arrival
EKG	Electrocardiogram
ETA	Estimated Time of Arrival
ETT	Endotracheal Tube
GCS	Glasgow Coma Scale
GI	Gastrointestinal
GSW	Gun Shot Wound
GYN	Gynecological
H/A	Headache
HR	Heart Rate
HTN	Hypertension
ICP	Intracranial Pressure
IDDM	Insulin Dependent Diabetes Mellitus
IM	Intramuscular
IO	Intraosseous

IV	Intravenous
LOC	Loss of Consciousness
LZ	Landing Zone
MDI	Metered Dose Inhaler
MOI	Mechanism of Injury
NC	Nasal Cannula
NG	Nasogastric
NKDA	No Known Drug Allergies
NOI	Nature of Illness
NPA	Nasopharyngeal Adjunct
npo	nothing by mouth
NRB	Non-Rebreather Mask
NTG	Nitroglycerin
N/V	Nausea / Vomiting
O2	Oxygen
OB	Obstetrics
OD	Overdose
OPA	Oropharyngeal Adjunct
$\bar{p}$	after
PE	Physical Exam
PNS	Peripheral Nervous System
po	by mouth
POLST	Physicians Orders for Life-Sustaining Treatment
PPE	Personal Protective Equipment
PRN	as needed
q	every
ROSC	Return of Spontaneous Circulation
RR	Respiratory Rate
RSI	Rapid Sequence Intubation
$\bar{s}$	without
SL	Sublingual
SOA	Short of Air
SOB	Shortness of Breath
SPO2	Pulse Oximetry
SQ	Subcutaneous
TCP	Transcutaneous Pacing
TIA	Transient Ischemic Attack
VS	Vital Signs
y/o	years old

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